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TWILIGHT SLEEP

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IN presenting to you to-night our investigation of the practical usefulness of this method, we would ask you to realize that we are simply attempting to give to you in a practical manner, in so far as we have been able to under the present existing conditions, and without enthusiasm for or against the method of Kronig and Gaus, the results we have obtained together with some of the conclusions which we feel may be legitimately drawn, without, however, going deeply into the romance, history, development or contentions about the treatment.

The method of endeavouring to obtain amnesia during labour apart from the use of any special drug, administered particularly by an obstetrical attendant, antedates the use of even chloroform. Alcohol, in one of the many more pleasant forms, was introduced by man, we believe, centuries ago, as a most successful amnesic for subjective suffering. How many of us have in our experiences with parturient women, more particularly those of the so-called

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submerged tenth, met with women's imitation of man's invention. While the result of this treatment was most successful in so far as the production of amnesia during labour was concerned, all others, and even the patient herself, suffered.

Memory, even with one in the proper mental state, is a precarious thing but we can safely say that in our own memory of eighteen years back, there is a distinct vision of an obstetrical attendant entering a home with an obstetrical bag and one of the most important parts of that bag was a 16 oz. bottle of chloroform and a large white handkerchief. The same physician sat patiently by a bedside all during the second stage of a primiparous labour giving whiffs of chloroform with each pain. That patient had a concealed postpartum hæmorrhage and a baby which needed resuscitation. All of which to-day might be explained by the prolonged use of chloroform.

We have all, in our association with obstetric practice, frequently made use of such drugs as chloral hyd., the bromides, morphia and opium, to obtain not only relief from pain, rest for an exhausted patient, but also to expedite labour. We have failed with these drugs as with chloroform to obtain complete relief because we could not succeed in reaching a sufficient degree of narcosis, by repeated dosage, without endangering both mother and child.

So we come to the latest addition of two forces in the effort to make an old idea more efficient by the use of two new agents in obstetrics, coupled with an old obstetrical friend, viz., morphia: one an old friend in a new guise, scopolamine (hyoscine); the other a new drug, in combination with morphia, narcotine.

Kronig and Gaus first depended upon morphia sulph., in combination with scopolamine. In the endeavour to eliminate the depressing effects particularly upon the respiratory and cardiac centres, Gaus substituted morphia meconate as being less toxic, finally adding to this narcotine as the necessary stimulant. This was further improved by the manufacture of an entirely new salt, morphine narcotine meconate, put up so far as we have been able to ascertain by Bohringer Sonne, Manneheim.

Possibly it may be helpful to some if a few moments are taken up in speaking of the different drugs used in this method.

Morphine narcotine meconate is a patented solution with the trade name "Narcophen"; this compound is put up in ampules (sterile), and is made by bringing together narcotine, morphine, and meconic acid in equimolecular proportions in alcohol and

precipitating with ether. The precipitate is soluble in water. Since the war a standardised reliable ampule has not been available to our knowledge.

Morphine meconate, one of the natural salts of morphia, is stated to be more powerful and less toxic than either the sulphate or hydro-chloride.

Narcotine, is a derivative of morphine treated with potass. hydroxide and possessing stimulating powers to the respiratory and cardiac centres.

Scopolamine, (hyoscine), comes from two sources: Scopolamine, from the roots and stem of the scopolia; hyoscine, from the leaves and flowering tops of the *hyocyamus niger*.

The alkaloids are obtained from three members of the scopolia family: Scop. Japonica, Scop. Carniolica, Scop. Lurida.

Gaus, in his later work, is said to have preferred the use of Scop. Japonica in his preparations, believing it to be more potent; the preparation, which we have had to depend upon for our work, in the scopolamine group has come from the Scop. Carniolica. In fact in the great majority of our cases, we have depended upon the product of Burroughs and Wellcome, and this firm refuses to list scopolamine at all, believing it to be less active than hyoscine.

However, both are hydrobromides, identical in formula, chemical therapeutic action and dose; both break up into three derivatives—a lævo, a dextro rotary, and a neutral, the lævo derivative being the most valuable agent for the work, the other two being more or less inert.

Atropine is an old familiar adjunct to morphia and has been used in some of our cases with a view to replacing narcotine.

In the result of the investigation we bring before you to-night, therefore, you will be good enough to remember that the work has been accomplished altogether by a modified Kronig-Gaus method.

We have for presentation the report of our first fifty-two cases. They are divided into three groups, because each of the groups represent the work of different men. The report of the first twenty-five represents the work of Dr. Phelan who commenced the investigation under the supervision of the attending staff in the wards of the hospital; in this group you find that atropine as an adjunct to morphia was used, but was cast aside by Dr. Phelan after he had found that instead of the control he had expected over the respiratory and cardiac centres the rapidity of respiration and pulse was very marked. Dr. Holbrooke has been asked to give his observations of the work while it was being carried out together with

the report of what he considers a markedly successful case and the history of a distinct failure. The second group of twenty-five were cases occurring in my own private practice.

Before going into the detail of these cases, we think it as well to give the rules we followed in the selection of our patients and of the administration of the treatment.

As to the patient: She must be a normal healthy woman, in the strict sense of the phrase, free from toxæmias of any kind, although moderate evidence of albuminuria without toxic symptoms may be included.

There should be no evident disproportion between foetus and pelvis (we do not mean to eliminate mildly contracted pelves, if there is every possibility of the vertex coming through spontaneously).

The presentation should, particularly in primipara, be a vertex, —in good flexion, though a breech in multipara may be admitted. The position should be normal.

The labour must be well instituted but not too well advanced, primipara make the best patients, for the very reason that labour may be thoroughly well established and yet the administration is given time to produce the desired effect of the drug. Multipara frequently terminate their labour before the desired effect can be produced.

The pains should come every five minutes at least, contractions of good intensity (estimated by the hand on the abdomen), and they should last for forty to fifty seconds.

The os must admit at least two fingers (4-5 cm.).

The rupture of the membranes does not preclude the use of the drug provided no new complication occurs or that the foetus shows signs of suffering in the increase or more particularly the decrease of the foetal heart rate, and the passage of meconium.

The bladder emptied. Catheterization later may lead to an island of memory and so spell failure.

For the same reason full preliminary preparation of the patient must be carried out in advance of the administration. The application of iodine or pyxol sol., with the final draping of the patient may be left until this is necessary.

Instruction of the patient: The patient was instructed in what was expected of her. We found it best to tell her quietly that we intended to give her something to ease the pain, but to get the best out of the remedy she must rest quietly, refrain from tossing about and do her best to obey all orders. Particular attention was paid to the instruction of how best to use her contractions and when the

effort was over to get all the rest and sleep possible during the interval. This was deeply impressed upon her by repeating it several times and having the patient repeat it back to us several times. The suggestion of sleep having been particularly employed.

The surroundings: The question of whether this method should be confined to the hospital or extended to the home will be dealt with in the conclusions we have drawn in this paper. The room wherever it may be should have two necessary characteristics:

1. Absolute quiet and freedom from disturbance of any kind. We have found that members of the family near a patient are quite sufficient to cause failure.

2. Complete preparation and readiness for emergencies.

We found, if success was to be obtained, that each case must receive the full individual attention of the administrator throughout the whole period of administration.

Administration—Drugs. With the exception of the first twelve cases reported by Dr. Phelan, we have depended upon the use of morphia and hyoscine hyd. alone for the treatment of these cases. Dr. Phelan in his first twelve cases added atropine gr. 1-180, but found the thirst, pulse rate and respiration accentuated rather than diminished and so discontinued its use. In all of Dr. Phelan's cases morphia sulphate gr. 1-6 with hyoscine hyd. gr. 1-100 was the initial dose; in those of Dr. Holbrooke and of my own morphia meconate gr. 1-6 with hyoscine hyd., gr. 1-100. All tablets were B & W., in separate tubes.

Technique. Just before the preliminary dose was given, the maternal pulse, respiration, temperature, blood pressure, the frequency of contractions and their duration were charted. The perineum was inspected and the os dilatation estimated per rectum. The foetal heart was auscultated and counted. The time taken.

The patient was asked to make careful note of the time by watch, of the fact that she was about to receive a hypodermic and finally to repeat her instructions.

The hypodermic given, the room darkened, etc., the patient in the most comfortable position she could assume, was left severely alone, with of course the nurse in attendance upon her. In fifteen minutes a silent examination as regards pulse, respiration, skin, mouth, tongue, B.P., perineum, pains, length and strength was made. The foetal heart was estimated during and after a contraction. This was repeated every fifteen minutes. (At the end of forty-

five minutes, with this, an examination as to her suffering and memory, if the memory tests proved her to have failed to have reached a sufficient degree of amnesia, hyoscine, alone, 1-200 was repeated. The usual examinations were kept up; at the end of another hour the memory was again tested, if still acute hyoscine gr. 1-400 was repeated, if dulled we always waited another hour, if still the same or becoming more acute at the end of this time hyoscine gr. 1-400 or 1-200 was used. In all the cases of Dr. Holbrooke and myself a maximum of three doses was maintained with an average dosage of two and two-thirds, although Dr. Phelan reports three and two-thirds as his average. One must be careful of disturbing influences and noises because, as we have found, these patients are easily roused and the wakening of a patient to consciousness may occur synchronously with a labour pain, the patient will have that island of memory which will comparatively and probably completely spoil the result from her standpoint.

In all cases terminating spontaneously, with the exception of the first nine cases, we have given chloroform in the final perineal stage to the obstetrical degree more so because these patients are not anæsthetised, and will not refrain from movement which often disturbs and even endangers one's technique. Again in the struggle to keep the dressings and patient in position we have seen a patient thoroughly aroused with complete memory afterwards of what occurred at that special moment.

The chloroform anæsthesia is of short duration, commencing with control of the crowning head to the delivery of the child, stopped and reapplied for the third stage delivery and if suturing were necessary continued until this was accomplished.

The child, if in good condition, upon cessation of cord pulsation was separated and quickly taken from the room to prevent the awakening of the patient by its cries.

Upon the completion of labour the patient was covered and allowed to sleep as long as possible, before disturbing her for any reason.

The Patients:

No. of patients.....	52
" primipara.....	48
" multipara.....	4
" normal pelves.....	45
" contracted (mildly).....	3
" flat.....	1
" funnel.....	3

No. of vertex presentations.....	49
“ breech presentations.....	3
“ labours, with membranes intact.....	44
“ “ premature rupture of membranes.....	8
“ pregnancies normal.....	50
“ “ with albuminuria.....	1
“ “ “ psychoses.....	1

Symptomatology. During the first fifteen to twenty minutes there was an average increase of fifteen to twenty beats in the maternal pulse, greatest increase sixty-five, most rapid pulse 155. The character of the pulse, with the exception of one case was maintained, this one case in which the pulse became very rapid for a period of twenty minutes, was small and thready but soon regained its tone. In all other cases the rate quickly reestablished itself. The respirations became slightly slower and deeper, with the exception of one case, which showed twelve per minute, and became even stertorous in character. The breathing in all other cases assumed the characteristics of a sleeping person. The skin in all cases became dry and the face flushed, in no cases was cyanosis noticed. Marked thirst in all cases, with the exception of four, two gave no evidence at all, in two thirst did not develop until much later on in the treatment. There was no change in temperature or blood pressure. In all cases there was restlessness and complaint during the period of contraction, this was gradually reduced by subsequent injection, but never entirely disappeared except in one case, where the head was just being delivered over the perineum before even the attendants were aware that the patient had reached such a stage. The memory in all successful cases was abolished after the third treatment, though in six of these cases two injections were sufficient.

First Stage. The labour in all cases showed some initial change in strength, frequency of contraction and character, but in all cases the complete dilatation of the os occupied no more time than usual, in fact this time seemed shortened more especially the dry labours in primiparous women.

Second Stage:

Spontaneous deliveries.....	44
Mid-forceps.....	2
Low-forceps.....	3
Breech.....	3
Precipitate second stage.....	2
Chloroform:	
Obstetrical degree.....	35
Surgical degree.....	8
None used.....	9

Third Stage of Labour:

Spontaneously completed.....	52
Membranes and placenta complete.....	44
Placenta complete.....	52
Longest time.....	50 minutes
Shortest ".....	4 "
Average ".....	14 "
Greatest blood loss.....	1000 c.c.
Least ".....	100 "
Average ".....	375 "
Cases with " over 500 c.c.....	15

We must confess that in some cases there was some impatience in waiting for the third stage to complete itself and in this way a loss of 1000 c.c. in one case may be accounted for.

Lacerations:

Episiotomy.....	5
First degree.....	9
Second ".....	7
	<hr/>
	21

Pituitrin:

To stimulate labour in .25 c.c. doses.....	4 cases
To expel a visible head .50 c.c. doses.....	6 "
Average length of labour after initial dose of morphia and hyoscine 6½ hours.	

Puerperium:

Normal.....	48
Morbid.....	4
Average stay in hospital (ward cases).....	10½ days
" " " (private cases).....	12 "
" attendance in home cases.....	15 "
Post-partum psychoses.....	None.
Lactation developed within five days.....	52 cases
Discharged in good condition.....	52 "

Fœtus. The foetal heart while showing considerable variation in rate 118-174, gave no indication of difference in rhythm or intensity in forty-nine cases. In two cases there was not only slowing of the rate but the beat became almost inaudible, in both these cases labour was terminated artificially with fatal results to the child in each case; however, there were associated with each case other causes sufficient to have caused foetal death. The third case showed both slowing and decrease in intensity but labour ended spontaneously with the child in the usual good condition.

Baby:

Born alive.....	49
Macerated.	1
Dead born, mid-forceps on soft head with long chloroform administration. Uterine inertia following long labour with rigid os.....	1
Still-born, mother suffered from a large psoas abscess and the child was small and very poorly nourished, one coil of cord around the neck tightly.	1

Colour:

Good colour and rigid.....	26
" " limp.....	9
Cyanosed slightly.....	7
" deeply.....	4
Livid.....	3

All babies quickly regained their colour and activity with the exception of five. These had to be resuscitated. In two of the cases of lividity two coils of cord were around the neck and in one there was a true knot. Average loss in weight during 1st week postpartum in eighteen cases 129 grammes. Number of babies discharged in good condition, forty-nine.

End result of medication:

Amnesia complete (with hyoscine delirium in 2).....	25
Analgesia without amnesia.....	16
Partial analgesia without amnesia.....	5
Distinct failure to produce amnesia or analgesia.....	6

 52

The points we have brought out in this series of cases are those not of selected, because of good or bad results, but of cases occurring in regular order and treated to a conclusion of the labour. We have many cases where morph. hyoscine, has been started too late in labour to give positive information and others where the treatment had to be discontinued owing to pressure of other work. In all cases we may say, however, that all patients received very apparent relief and there was a very noticeable absence of the usual post-labour fatigue.

In presenting to you case reports we have purposely chosen the cases of Dr. Holbrooke as indicating what is most necessary for success and at the same time emphasizing what will bring about failure to obtain it.

Case No. 1. Mrs. A. aged nineteen, para I, was admitted at 1 p.m., November 10th, 1915. She was at full term and in the first stage of labor. Her external measurements were all a little

under normal, but the diag. conj., was not shortened. The bis-ischial diameter measured 8 cm.

Her pains were all in the back, coming every five minutes. The head was fixed in the brim in R.O.A. Os dilated 2 cm., foetal heart 120 per minute. Maternal pulse 110. She was very nervous and made a good deal of resistance to rectal examination and abdominal palpation.

She was considered a suitable case for morph.—hyoscine treatment. B. & W. hypo. tablets were used. At 1 p.m., she was given morphia meconate gr. 1-6 and hyoscine hyd. gr. 1-100, the room was darkened, and within twenty minutes she was lying on her side and sleeping between pains. At 3.30 p.m., she was still sleeping between pains. Memory was clear, the patient remembering her first hypodermic and at the same time complaining of her pains. At 3.30 p.m. hyoscine hyd., gr. 1-200 was repeated. Contractions continued within four to five minute intervals with sleep between. Pain was complained of but very little. At 4.50 p.m., the membranes ruptured spontaneously. The head descended normally to the perineum. The patient still remained upon her side, worked well with her pains and complained very little. Thirst became apparent, mouth dry. Memory tests, such as the giving of the last hypodermic and her entry into the case-room proved amnesia to be complete.

At 5.40 p.m., the head was showing at the vulva. Foetal heart 132 per minute, increased sensibility to pain and restlessness becoming apparent, hyoscine hyd., gr. 1-400 was given. With the further descent of the head she was difficult to control. A little chloroform was given with each pain and the restlessness passed off, labour progressed as in any normal case. Drowsiness between contractions was marked. The head crowned slowly, no perineal laceration occurred. She talked a little but was quite muddled. The baby was slightly blue and limp but quickly cried on being slapped, soon becoming a good pink colour.

There was very little blood loss during the third stage. The placenta separated and came away readily, membranes and placenta intact. The fundus remained firm following labour. She was drowsy for about half an hour post-partum and expressed much surprise when told that the baby was born. She remembered practically nothing that occurred after the second injection. Twelve hours after delivery, questioned, she says she does not feel tired. She did not sleep much—also she says, because she did not feel tired after the labour. The patient does not now remem-

ber any pains and thinks that it is not very hard to have a baby. The patient looks well and fresh, certainly not nearly so exhausted as many primipara appear after labour.

November 18th, 1915. The patient had a normal puerperium. Breasts were engorged on the fifth day. Sitting up in a chair on the eighth day. Mother and child were discharged in perfect condition on the eleventh day.

Case No. 2. Mrs. B., aged twenty-four, para I, with all pelvic measurements normal except a rather narrow outlet, 7.75cm., she developed mild labour at 6 p.m., November 9th, 1915. The position was L.O.A. Head engaged. Pains very slow until the following evening. At this time the os was dilated to about 3 cm., and the pains were giving a good deal of distress; at 8 p.m., she was given hypo., morphia meconate, gr. 1-6 and hyoscine hyd., gr. 1-150. The lights dimmed. The patient went on much as before the hypodermic. She did not sleep. Her pains gave her almost as much distress as before. She was left for three hours, owing to an emergency, when a second injection of hyoscine hyd., gr. 1-200 was given. Her pains were now much more severe. The cervix, by rectal examination, was fully dilated and the head was on the spines. The labor progressed to a normal delivery of the head at 3.25 a.m., but there was no diminution in the suffering and no drowsiness, at all times she remembered everything that had gone on before.

The next morning she remembered everything, and was very emphatic in saying that the hypodermics did not seem to relieve her pains at all. This case certainly was a failure. The failure I believe to have been due to an impossibility upon the part of the administrator to give undivided attention to the administration.

Our successes read almost word for word as the detailed report of Case No. 1 and it would only be taking your valuable time to no purpose to insert them in this paper.

The failures while not due to the same exact cause as in case report No. 2 may be traced not so much to any untoward action of the drug, more we think, in the light of experience gained, to lack of judgement in choosing our cases or in the dosage of the patient.

Failure No. 1. Labour while started was not very well established. Morphia sulph. gr. 1-4, hyoscine hyd., gr. 1-100, atropine, gr. 1-180. Result, labour completely arrested.

Failure No. 2. Labour well established, morphia repeated with second dose of hyoscine. Result,—labour prolonged—uterine inactivity—artificially completed. Livid baby with prolonged

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necessity for resuscitation. Too much morphia. The repetition of morphia in the treatment is not only unnecessary but even dangerous.

Failure No. 3. Arrest of labour, after attempt had been made to induce by Krause's bougie for generally contracted pelvis.

Failure No. 4. Breech case in primipara, cord tightly around body under shoulder. Mother had large psoas abscess. Child poorly developed. Manual extraction necessary after a long labour. Still born.

Failure No. 5. Absolute failure to produce amnesia, with delirium. Cessation of administration and termination of the case spontaneously six hours after with complete memory of suffering. One dose given.

Failure No. 6. Multipara, labour ending in two hours after only slight analgesia and partial amnesia had been attained. One dose only.

The twenty-one other cases in which complete amnesia was not obtained, but in which a partial amnesia or analgesia existed, might we think be considered rather as partial successes, in as much as they all experienced some degree of relief.

Conclusions

1. It is well to remember that we are not endeavouring to produce anæsthesia, but analgesic amnesia and that experience alone teaches us what true amnesia is.

2. Cases must be selected, the treatment is not universal. The patient must measure up to a standard which is high. She must be a normal healthy woman, with the elements of labour well established and pointing to a normal conclusion.

3. The foetus must give every evidence of good vitality.

4. The administrator must possess obstetrical diagnostic ability and an appreciation of the foetal heart sounds.

5. Every patient is an individual entity and must be treated as such. No two cases requiring the same repetition or dosage.

6. Each case demands the full individual attention of the administrator.

7. Labour does not seem to be prolonged, rather shortened.

8. The patients show less exhaustion, and even when full amnesia is not obtained are all much quieter, seemingly suffering less pain.

9. Lactation is not hindered.

10. The blame of failure, in most cases, can be ascribed to the administrator. Foetal deaths are often ascribed to the treatment, when other causes, which in the course of a labour without the drugs, frequently bring them about.

11. While the treatment can be carried out with more ease and efficiency in the hospital, just as much success can be obtained in the private home if the administrator is willing to devote the necessary attention to his case.

12. The use of the method is in its infancy and is certainly in our humble opinion worthy of development. As Dr. Phelan has expressed it in the words of one of the world's greatest philosophers: "There is a principle which is against all information and which cannot fail to keep a man in everlasting ignorance: this principle is contempt prior to examination."

It may interest you to know that while continuing our investigation of "Twilight Sleep", we are at the same time examining the value of nitrous oxide and oxygen, after the method laid down by Webster, as an analgesic during parturition.

THE American Orthopedic Association announces the appointment of Dr. Mark H. Rogers, Boston, as editor of *The American Journal of Orthopedic Surgery*, the only periodical in the English language devoted to orthopedics. This journal, which has now completed thirteen volumes as a quarterly publication, will henceforth be issued monthly, the first number in the new form being that of January, 1916. The office of publication has been transferred from Philadelphia to Ernest Gregory, 126 Massachusetts Avenue, Boston. The subscription price is \$4.00 per year.

ECLAMPSIA

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ECLAMPSIA is defined as an acute toxæmia occurring in the pregnant, parturient and puerperal woman, and is usually accompanied by clonic and tonic convulsions, during which there is loss of consciousness, followed by more or less prolonged coma (Williams).

The only constant and characteristic pathological lesions associated with the condition are to be found in the liver. These are areas of periportal necrosis involving the periphery of the individual lobules dependent upon dilatation and thrombosis of the capillaries. As these lesions can only be observed *post mortem* a provisional diagnosis is all that the clinician can make, the precise diagnosis can only be made by the pathologist.

Personally, I am of the opinion that true eclampsia is on the whole a rather rare complication of pregnancy, and that a preponderant proportion of cases diagnosed as eclampsia are really cases of renal insufficiency or nephritis. In other words that in the larger proportion of cases the toxæmia is due primarily to defective kidneys, while in the remainder, the hepatic type, the renal involvement is purely secondary. That it is possible to make a diagnosis of true eclampsia during life is thus open to question.

The attempt has been made to distinguish between the renal and hepatic types of eclampsia but the more extended one's experience of the condition, the less does one feel able to speak with any certainty as to the type one has to deal with in any individual case.

One is inclined to consider true eclampsia as an extremely acute condition from which the unfortunate sufferer either perishes quickly or makes a complete recovery in a comparatively short time, and one attack seems to confer on most individuals a definite immunity, as the condition very rarely recurs in subsequent pregnancies.

The clinical phenomena in both types are almost identical,

and while the toxæmia is present there is practically nothing to enable the clinician to distinguish between them.

The history of the patient may occasionally afford a clue, a severe attack of scarlet fever, or other infectious disease in childhood, or previous pregnancies may have been complicated by albuminuria or other evidences of toxæmia. It is only by a close study of the phenomena attending convalescence of a pregnancy case complicated by an attack of so-called eclamptic toxæmia, that one may gain some light on the problem, according to Professor Slemmons, who in a recent article on albuminuria of pregnancy (*American Journal of Obstetrics*, May, 1913,) in discussing this subject, dwelt on the value of systematic observations of the subsidence of the albuminuria and of the blood pressure during convalescence, from the standpoint of prognosis. That is, what chance a patient may have in subsequent pregnancies of escaping recurrence of the toxæmia from which she has suffered.

That there are definite clinical types of eclampsia is a matter of fact to those men who have had the largest experience of this complication of pregnancy. Whether there exist different causes of toxæmia of pregnancy we at present cannot even surmise, but we do know that cases which are quite similar as regards the clinical phenomena may present pathological lesions of the greatest diversity.

When one endeavours to bring into relationship the various theories that have been advanced as to the etiology of eclampsia one speedily becomes bewildered. In spite of the immense literature upon this subject we are still practically ignorant as to the essential cause of the toxæmia. It is, however, probable that at no distant day some biological chemist will win undying fame by discovering the nature and origin of the toxic substances. Whatever may be the cause, the average clinician must continue for some time to regard the liver and kidneys of the pregnant woman as *loca minoris resistenciæ* as regards the toxæmia of pregnancy.

In morbid conditions affecting the heart we know that we must regard with the greatest concern the compensation of that organ. So is it in morbid conditions which result from the toxæmias of pregnancy, but in the latter instance it is the compensation of the liver and kidneys on which the clinician must depend.

That very extensive organic lesions may exist without eclampsia developing, is well illustrated by the following case:

A. B., aged thirty eight, multipara, was delivered after a natural labour at her lodgings and admitted to the Montreal Ma-

ternity Hospital immediately afterwards. Her urine on admission was found to contain gr. iv. of albumin and numerous casts of all varieties. She had a markedly enlarged cirrhotic liver, and fluid was present in the peritoneal cavity. There was well marked evidence of a general arteriosclerosis, and her blood pressure was 150 mm. In spite of these conditions, which remained unaltered during her stay of fourteen days in the hospital, at no time had she developed any evidences of eclampsia. Her child had been born alive in a well nourished condition. Thus in this case as far as the pregnancy was concerned the liver and kidneys, though markedly diseased, had functionated efficiently.

Unfortunately we have at present no certain methods of ascertaining the competency of the liver and kidneys in any given case. Traces of albumin in the urine of pregnant women may be found, it is frequently stated, in fifty per cent. of the cases and is of no special significance. But when albumin is found in sufficient quantity to be measured in an Esbach tube, and tube casts are present in the urine of a pregnant woman, she is suffering from toxæmia of some kind; but the degree of intoxication and particularly the character of the lesions which may be associated with these phenomena, it is impossible to estimate with any degree of certainty.

It may be stated that neither the degree of albuminuria nor the microscopic findings on examination of the urine, give much clue as to the degree of toxæmia present. Many cases with marked albuminuria in the later weeks of pregnancy go to full term and deliver a living child without other evidences of toxæmia developing. The history of the following cases may be cited as showing the unfortunate results of depending upon the urinary examination as a guide to treatment:

L. G., aged thirty-seven, ii-para. At first pregnancy she was admitted in labour suffering from eclampsia; blood pressure 160 mm.; venesection; mid-forceps; living child; good recovery. Left hospital with no traces of albumin in the urine. The second pregnancy occurred two years later, and she was due February 1st, 1913. She was admitted on December 4th, 1912, with one gramme of albumin in the urine and a blood pressure of 190 mm. During fifteen days in the hospital no trace of albumin was found in the urine and there were no casts, but the blood pressure varied from 190 to 210 mm. Owing to the crowded condition in the wards she was allowed to go home, but cautioned as to diet, and ordered to report in a week. She paid no attention to the dietetic instructions, and came in one week later, having had two con-

vulsions. On examination the os was found well dilated, but while attempting to deliver her, she took a third convulsion and died on the table. The urine removed by catheter on admission contained 3 grammes of albumin, and her blood pressure was 200 mm.

Much attention has recently been given to the study of the blood pressure in cases of eclampsia. Professor Slemmons, in the paper already quoted, reports a series of twenty cases of pregnancy toxæmia, in each of which when the toxæmia was at its height, the blood pressure was high, rarely below 180 mm., and in nephritic toxæmia it was higher than in eclampsia. Bailey (*Surg., Gyn., and Obstet.*, November, 1911) found "that the normal blood pressure during the last five weeks of pregnancy averages about 118 mm.; a blood pressure of 150 mm. is indicative of impending eclampsia and calls for immediate attention and treatment. In eclampsia, with convulsions, the blood pressure is usually about 200 mm., but may be as low as 150 mm."

In a series of 38 cases of toxæmia of pregnancy, in which I studied the blood pressure findings, reported some time ago, I placed the danger limit of pressure at 160 mm. As my experience increases I am surprised at the number of cases in which the general symptom-complex indicates a very considerable degree of toxæmia, while the blood pressure readings are comparatively low. Of the series of severe toxæmias of late pregnancy of which I have records, I select the following, as indicating that a serious grade of pregnancy toxæmia may exist while the blood pressure remains approximately normal; one, in which on account of the severity of the intoxication, labour was induced at the seventh month; one, in which the patient was delivered at term, being admitted to the hospital in labour, with impending convulsions, she was a chronic nephritic; and the third, a case of eclampsia with convulsions.

Case 1. Mrs. G., aged twenty-eight, third pregnancy, two living children. Admitted on account of albuminuria. The urine contained albumin, from 18 to 22 grms. per litre, large quantities of all kinds of casts and much renal epithelium. The blood pressure repeatedly taken varied from 90 to 120 mm. Labour was induced at seven months. Child living, but died a few days later. Albumin content of urine fell to 4 grms. on leaving the hospital.

Case II. Mrs. M. M., aged twenty-six, i-para. Admitted in labour suffering from headache, which had begun two days before admission, and well marked cedema of three weeks' duration;

some dimness of vision and specks before the eyes; constipated. She had scarlet fever, followed by nephritis, ten years ago. On admission her blood pressure was 124 mm., the urine contained albumin, grm. 0.75 per litre, also numerous granular, and many hyaline and fatty casts. Labour lasted five hours; normal delivery of living child. Two days later the blood pressure was 120 mm. and the urine contained albumin, 1.8 grm. This case, a typical nephritic, refutes the conclusion of Professor Slemmons, that the blood pressure in nephritics is invariably higher than in the true eclamptic.

Case III. S.Z., aged twenty-six, iii-para. Labour normal. General oedema, and albumin found in urine at time of labour. Two hours after delivery a severe convulsion, rapidly followed by a second, when she was hurried to the hospital. On admission the blood pressure was 120 mm., albumin 4 grms. per litre, casts present. Daily blood pressure readings were taken during her stay in hospital, always the same, 120 mm. Good recovery and no albumin after the sixth day.

These cases I consider somewhat exceptional, and it may be stated that as a general rule toxæmia occurring late in pregnancy is attended with a marked increase in the general blood pressure. In all cases of pregnancy presenting signs or symptoms of toxæmia the blood pressure should be systematically observed. A rising blood pressure, associated with toxic symptoms; headache, constipation, oedema, epigastric pain, disturbed vision, albuminuria, etc., is indicative of danger, and a pressure of 150 mm. may be considered as the danger limit.

When one endeavours to sum up what may be considered the treatment of eclampsia, after a review of the literature dealing with the subject, one may be excused for reserving judgement, in view of the contradictory evidence of the results of various forms of treatment. One is inclined to conclude that no matter what treatment is followed, or even without any treatment, a certain percentage of cases recover, and the general morality remains comparatively the same.

When one consults the authorities of a century or more ago, one finds the same methods were employed as are generally in use to-day; *e.g.*, venesection, the use of sedatives and delivery as early as possible. There existed at that time the same diversity of opinion as to the value of active operative proceedings to hasten delivery as still obtains to-day. Francis Denman, in 1780, remarks that "there is yet room for much improvement in our knowledge

of the causes, effects, and treatment of convulsions depending on pregnancy and parturition", and his words apply with equal effect to-day. Until we have a more accurate knowledge of the cause and its effects, our treatment must be more or less empirical.

In the present day the controversy is keener than ever between those in favour of active, if necessary surgical, treatment, to effect immediate delivery; and those who favour expectancy. Since the appearance of Freund's study of 551 cases in the Berlin clinics (*Arch. f. Gyn.*, Bd. xcvii, Hft. 3) in which he apparently establishes conclusively the value of early delivery as soon after the first convulsion as possible, the weight of opinion has been generally in favour of early active surgical treatment to effect delivery, as being of tantamount importance.

Strogonoff (*Zent. f. Gyn.* No. 25, 1912) who may be termed the apostle of expectant treatment, claims, in a series of 660 cases treated by his prophylactic method (morphia, chloral, perfect rest, and oxygen), the mortality was but 8%, and in uncomplicated cases may be further reduced to 2%. He considers chloral to be a physiological antagonist to the eclampsia toxin. This he employs associated with small doses of morphia, claiming that the combination of the different sedatives increases their effectiveness, so that we are enabled to use smaller doses and thus avoid any deleterious effects these drugs might exert.

Active surgical treatment can only be employed in hospitals where skilled assistance is available, while the expectant treatment must ever remain the resource of the general practitioner.

Denman in his text-book (1780) states that he had not for many years seen or heard of a patient dying with puerperal convulsions, if bleeding had been timely and sufficiently employed. Recently this method of treatment has come into prominence, what Bar and Commandeux have termed the "renaissance of venesection". It is claimed that by this means a considerable quantity of toxin is withdrawn from the circulation, the general blood pressure is reduced and the absorption of fluids favoured and the function of the kidneys stimulated.

Macé and Clairé report having treated a series of 53 cases by this method alone with a mortality of but 9.4%. Lichtenstein (*Zent. f. Gyn.*, No. 47, 1912) reports that in a series of 80 cases, after a single bleeding, in 47 there was no return of convulsions. In the same paper he mentions that in Zweifel's clinic, where a series of 80 cases were treated by the Strogonoff method combined

with venesection, the mortality was reduced to 6.25%, and that a series of 60 cases were treated without mortality.

In this connexion the same author (*Arch. f. Gyn.*, Bd. xcv. Heft. i) suggests that the good results claimed by Freund in consequence of active treatment, were brought about by the hæmorrhage incident to delivery, rather than by the taking away of the child. He claims that if the loss of blood in eclampsia is to be beneficial it is better that the blood be taken before the uterus is emptied instead of encouraging bleeding during the rapid termination of pregnancy. Zweifel (*Monatsch. f. Geh. und Gyn.*, January, 1913) supports the conclusions of Lichtenstein from the same clinical material, and gives the following review of his statistics under various methods of treatment which he has followed in the period from 1892 to 1912.

Active treatment (as suggested by Duhrssen, immediate operative delivery after the first convulsion)

1892-1895,	80 cases,	mortality 15	per cent.
1895-1901,	143	"	17.3 per cent.
1901-1910,	400	"	18.5 per cent.

changed to expectant treatment (Strogonoff) combined with venesection.

1910-1912, 84 cases, mortality, 5.9 per cent.

The foetal mortality (viable cases) in series from 1892-1910 (operative period), was 36 per cent., while in the 84 cases treated from 1910-1912, it was 20.3 per cent.

The induction of diaphoresis by means of the application of heat, hot air, steam, etc., is looked upon by most as of great value in the treatment of eclampsia, yet it is significant that the good results of Strogonoff and Zweifel have been obtained without its employment. One cannot help believing that by free action of the skin large quantities of toxic material are removed from the circulation, especially when this method of treatment is associated with the employment of salines, either rectal or intravenous. Whether the introduction of calcium salts is deleterious in these cases, as is claimed by many, seems open to doubt, in view of the excellent results experienced by those who have employed saline injections.

My own experience is that as regards treatment every individual case must be studied, and that no single method of treatment is applicable to all.

In the presence of evident symptoms of toxæmia in the later months of pregnancy, associated with albuminuria and casts, and

an increased blood pressure, eliminative and sedative treatment is indicated. One must rely on milk diet, hot baths, the copious use of fluids and purgatives, associated with rest in bed, to bring about improvement. If there be no improvement, indicated by the subsidence of the albuminuria, reduction of blood pressure and disappearance of the general symptoms of toxæmia, then labor should be induced. Venesection, sweating, the employment of morphia and chloral in moderate doses, with purgation and the free use of fluids, constitutes the treatment of a case of actual convulsions. In cases at or near term active surgical methods of delivery may be undertaken, but only to save the life of the child, as such operations unless attended with considerable hæmorrhage seem to have but little influence in relieving the condition of the mother.

A COMMITTEE of the American Red Cross has been formed in Cairo to undertake relief work there in connexion with the war. The chairman of the committee is Dr. F. H. Henry.

THE sum of \$1,700 has been collected in the village of St. George, Ontario, and has been forwarded to the Red Cross Society for the purchase of a McLaughlin motor ambulance.

THE PSYCHO-NEUROSES

OBSERVATIONS BASED UPON ONE HUNDRED STRONGLY MARKED
CASES SEEN IN ORTHOPEDIC PRACTICE

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PERHAPS I shall be accused of temerity in entering the domain of the neurologist. If so I would point to the fact that there is a phase of practice from which none can hope to escape. Every practitioner knows that he sustains toward his patients a relationship other than that implied in the administration of drugs, in the performance of operations or the correct adjustment of a mechanical appliance. There is a personal relationship which he can not avoid, one which implies faith, confidence and affinity or the opposites. His success in his work must depend largely upon the happy adjustment of these relations.

Some of the histories recorded in this essay reveal but a distant relationship to orthopedic surgery; but the means which I employ in my practice, ordinarily, afford me facilities for dealing with such cases; and further, until a diagnosis be made, it would be difficult to know to whom to assign them for treatment.

A few representative histories will first be related; afterward some essential features of treatment will receive consideration. The subject is presented in its clinical aspects, and the histories are very brief. About one hundred cases have been selected as the basis of this paper.

CASES

Case 1. G. J., a young woman of seventeen, had first sprained her ankle and after treatment for some weeks is reported to have had an injury to one knee. Within a period of a few months there were several such injuries reported in both extremities. In this way some three years had passed, and I found her using braces, jointed at the knees, upon both limbs, throughout their entire length, attached to the boots and having a band about the pelvis. Upon examination I could find no evidence of the girl having had paralysis, nor of any joint lesion. I allowed her to take work in the gymnasium for a time, using her braces, had these gradually removed, and, as she increased in confidence, her activity became entirely normal. Though years have passed, there has been no return of the condition complained of when I first saw her.

Case 2. A. M., a young woman, eighteen years of age, of excellent physique. Had sprained her ankle nineteen months previous to the time of my being consulted. After the accident the joint had received treatment by liniments, bandaging, resting, etc. As the patient made complaint from time to time of inability to use the limb, more decided treatment was employed by the medical attendant. It was placed in a plaster-of-paris dressing for several weeks; subsequently the girl was confined to bed; consultations were held; a suspicion that the condition was one of tuberculosis was created. In this way more than a year and a half had been allowed to pass, during which time the girl had not used the foot, and there resulted a moderate condition of drop-toe.

Finding upon examination no symptoms or signs that would justify one in concluding that there was disease present, and giving due consideration to the history reported, I expressed the opinion that the foot should be immediately put to use. During several months which followed, the family and medical attendant were unable to induce a more liberal use of the limb, and she came to the Orthopedic Hospital. The patient herself did not prove docile, and appeared to be unwilling to recover. I would not be understood as saying that she was actually unwilling, but the impression upon her mind had been so positive and fixed that I found difficulty in having it eradicated. Following my usual course I put her into the gymnasium, as soon as I had corrected the equinus, by operation. Without making explanations to her, she was led on from point to point until she could do in a very creditable manner all the work that was required of her, even to that of very difficult slow marching, where the toes were pointed directly downward at each step, making it necessary to carry the weight forward resting and balancing upon the pointed foot. A variety of complicated fancy steps could be executed with efficiency and grace. Notwithstanding this advancement she was *unable to walk* without a very decided limp and without keeping the heel from the ground in walking. Several months of constant effort in physical training were necessary to cure her of her lameness. The correction of the equinus in itself was a simple matter, but to induce her to walk naturally proved a difficult task. Having occasion to spend a few days in the town where she lives, a few months after her return home, I found her active and moving about without any limp.

Case 3. E. D., a young woman aged twenty-four years. Had sprained her knee stepping off a street-car nine months previously. During the nine months that had elapsed the knee was treated by rest in bed, by a plaster-of-paris protecting splint and by counter irritation. After the taking of x-ray pictures and a consultation the conclusion was reached that it was a tubercular joint. Nine months after the accident I was consulted and could find no sufficient justification for accepting the serious diagnosis which had been given. Considering the entire history I urged gradually increasing use of the limb. Though she and her friends were doubtful about such a course, yet after further consideration the young woman was placed under my care and took all the ordinary work in the gymnasium. For about a month there were frequent complaints of pain in the knee, and expressions of doubt as to the wisdom of the course followed. Three months, however, of daily work, graduated to her ability, restored confidence completely and her subsequent course for several years has been entirely satisfactory.

Case 4. D. B. M., a man of thirty-five years of age. Fourteen years previously he had jumped from a waggon and hurt one knee. The exact nature of the injury I was unable definitely to ascertain, but it would appear to have been an injury to a semi-lunar cartilage. Following this injury he walked with crutches for sometime and subsequently injured the other knee. From this time onward, during the fourteen years, there was a varying history and the ordinary treatment by liniments, walking with crutches, plaster-of-paris, etc. For years he had driven about the country as an agent, using crutches when walking. When he came to the hospital he walked with crutches, and complained of disability in both knees. I operated first upon the one which was

said to be the more disabled. The semi-lunar cartilage in this knee appeared to have atrophied, so that there was a mere string. This we removed and healing occurred without special incident. While he thus rested during the time of healing, he was encouraged to expect that both knees would improve. Four weeks after the operation he was started in the gymnasium, first allowing him to walk suspended by a trolley line and car, so that his weight could be borne chiefly by suspension, applied under the chin and occiput. Practice was given in this way without the use of the crutches. As he gained confidence he was encouraged to walk independently of any support and the ordinary exercises of nearly every variety in the gymnasium were employed. His confidence in his own ability increased and in three months from the time when he came to the hospital he had resumed a very reasonable degree of activity without any support or discomfort. Some months afterward he called to see me and had been making very gratifying progress. Since that time he has passed out of my view.

Case 5. M. McC., twenty-nine years of age. Two years previous to the time of consultation had been in a carriage when the horse ran away. Is said to have been thrown against a post, fracturing the spine. Was kept in bed, had jackets of plaster-of-paris, etc.; but on attempting to have her resume activity the complaint of pain and disability had prevented the attendants from enforcing it. She returned home from the hospital able to walk, but did not attempt to resume her work as a teacher. Her activity became gradually more restricted and she complained much of pain in her back and inability to hold up her head and became an object of much solicitude to her family, who found her becoming more self-centred and discouraged. When consulted some two years after the injury I found that every part responded normally to physiological tests, but when I sought to encourage her and to assure her of her ability to resume all normal activities, she became annoyed and said it was useless to speak to her so, because she knew it was quite impossible for her even to hold up her head so as to read. Finally, however, she agreed to offer no further opposition, but to make an honest effort. The ordinary work and discipline of the gymnasium were carried out. For some time there was considerable difficulty in overcoming her inertness and opposition and she was strongly inclined to assert that she was "no better". Her interest as a former teacher was aroused, she was asked to converse with and to instruct other patients, whose educational advantages had been less than her own. Placing some responsibility upon her and calling for her aid to help others proved the most effective agency in helping her. In a few weeks she manifested great interest, and threw herself actively into the work, assisting others. Her recovery was speedy and complete, she resumed her place in a large school and for years has been doing efficient work.

Case 6. F. C., a young woman twenty-five years of age. Nine months previous to consultation had been thrown forcibly from the step of a street car, and injured considerably in the region of the hip. Upon examination, the consultant spoke of some dislocation in the region of the lumbo-sacral joint, which would necessitate operation; but the advice was not followed. When seen nine months after the accident she was using crutches and keeping the left foot from the ground, toe pointed downward, and a condition of equinus was present. Reflexes were exaggerated and sensation disturbed. Upon careful examination by manipulation, and by examination of x-ray pictures, no dislocation or fracture could be discovered. This girl was placed in the gymnasium and as speedily as possible was urged forward from one kind of work to another, and some three or four months were necessary for complete recovery.

Case 7. S. C., a young woman eighteen years of age, I found in a poor home lying on a coarse cot. This girl was said to have tuberculosis of the lungs and was having frequent hæmorrhages. Also was stated to be suffering from paraplegia, and had not been walking for a considerable length of time. Upon coming to the hospital I had

her carefully watched, and found that each morning a cup of bloody sputum was exhibited. This had not the appearance characteristic of tuberculosis, and I asked a throat specialist to make a careful examination of the respiratory passages. He reported to me that behind the palate there was an ulcer about the size of the thumb nail which was being kept raw, and from which blood could easily be extracted by sucking. Otherwise the parts were normal; but the girl was pale and emaciated. Without previous explanation I approached her brusquely and accused her of acting falsely with her family and medical attendants, and stated that this sucking of blood must cease, and that she must immediately get up and help herself as others were doing. She was surprised beyond the possibility of reply, and the difficulty presented in the hæmorrhages at once disappeared. She was placed in the gymnasium and set to work with the result that her condition in every particular improved rapidly, and within a few weeks she gained 18 pounds in weight and improved greatly in colour.

Case 8. A. D., a girl of fourteen years of age, presented a condition of extreme equino-varus of one foot. The history was that she had not walked for a period of four years, and had had some trouble in her left foot from her second year. At that time, complaining of some trouble in the foot, she was taken to a dispensary and received out-treatment for a considerable length of time. Subsequently there had been electrical treatment for the foot and leg at another hospital. At still a later date a diagnosis was given of sarcoma, and she was treated by the use of x-rays. Shortly before the time that I saw her, someone had made a diagnosis of tuberculosis, and, on the assumption that there was pus to be obtained, had made an incision. Upon asking to show the foot and to be permitted to handle it, a great ado was made, and the family had supposed it was so painful and tender that it could not be handled. Taking into account the history and the conditions present, I told the practitioner that the case was manifestly one of hysteria and probably had been so from the beginning. In the hospital, under anæsthesia, there was little difficulty, by manipulation, in placing the foot in a normal position. Two dressings in plaster-of-paris after manipulation each time, were found sufficient to overcome the deformity. There was but little reaction manifested as a result of the manipulation necessary in placing the foot in a normal relation, and she soon learned to walk, not, however, without the much needed discipline which could never have been supplied in her home.

In regard to the cases just recited, whatever may be said concerning inheritance, as affording a favourable ground for a psycho-neurotic condition, it is certain that we should in all candour place much of the blame upon the medical attendants who failed to recognize the conditions present at an early date, and to bring to bear upon the delinquent, and if necessary on the parents also, a much needed and well ordered discipline.

Case 9. H. W., a woman about forty years of age, who had been well educated and had been an excellent office hand, had become jealous of the attentions shown to a younger sister. She did not hesitate to manifest her feelings in quite a pronounced way in the home, and as this feature became more pronounced, she became so incompetent in her office work as to be given her discharge. Matters became much worse in the home until finally medical advice was sought. Taking into account the conditions, I asked for a consultation with an alienist who said that the case was undoubtedly one of paranoia and that we would be justified in pronouncing her insane, and advising treatment in an asylum. At the same time he said it would be better if we could avoid the institutional taint, and that he would approve of my dealing with her through physical training. She responded readily and within two or three months regained her balance, resumed her business position and matters went on well for some time. The tendency, however, to quarrel with her family manifested itself again and proceeded so far that she made a violent assault upon her father, who was an aged man. Immediately following this a warrant was issued committing her to an asylum, under the care of the alienist with whom I had first consulted. She speedily regained her mental equilibrium and became a valuable office hand in the institution.

Case 10. I. C., a clergyman about forty years of age, had been serving in a country parish where distances were great, drives long, hardships numerous and companionship, outside of his own family, not particularly agreeable. General condition of health and physical appearance good; but more and more he complained of inability to do his work and of mental anxiety until he had become fearful that there was a condition of paralysis or insanity creeping on. At this juncture he got permission to absent himself from his field of labour, and was referred to me for advice. He became very much interested in the exercises of the gymnasium; took much pleasure in the association with his fellow-patients and was much interested in the explanations which I gave him as to his condition. I assured him that the case was really one of mental and social starvation, and that he would be quite able to resume his work if he could summon his faculties to duty, estimate sanely his condition and circumstances and address himself ardently to the work in hand. Years have passed since that time. His health has remained satisfactory and he has been in labours abundant.

Case 11. H. M., a young man of about nineteen years of age, of excellent physique, who had been showing very pronounced symptoms of quarreling with the members of his family. This had finally gone so far that he had crowded his mother into a corner and grasped her threateningly by the throat. On several occasions he had submitted to the superior power of his brother, who had compelled him by force to behave himself. The family had hidden these conditions until he had assaulted his mother, then I was asked to see him and consented to try what the work of the gymnasium and discipline could accomplish in his case. He did not prove amenable to treatment, offered continual and violent opposition until subsequently I had him admitted to the asylum. No very marked improvement showed itself at any subsequent time, and, after the lapse of about a year, he died.

I have related these cases of psycho-neurosis, to show that some of them border very closely upon a condition of actual insanity. Several of these patients I saw in consultation with an alienist. Some of these made excellent recoveries and have continued to do well. Three of the number so seen, died shortly afterwards, insane.

Case 12. Mrs. J. H., twenty-four years of age. Fifteen months previous to the time of my having seen her she had fallen from a table lighting astride of the back of a chair, falling to the floor and being painfully hurt. Examination could not determine that there was any definite injury. During the fifteen months, however, which elapsed, she had remained constantly upon her back. Never once, I was told, from the time that she had been carried from the floor to her bed, had she even sat up during that time. It had been found impossible for her attendants to do more than roll her over when bathing and dressing her. When it was sought to put under her head a larger pillow than she was accustomed to, it caused great pain in the spine and could not be done. She had been carefully nursed, had received very kind attention, and was in good general health. She had been seen by several physicians, some of whom had expressed the opinion that she ought to rise and resume her normal activity. None, however, insisted upon it. I assured her that there was no disease and no injury to interfere with normal activity. Being brought to the hospital, I lifted her, without asking her consent, from the bed and put her into a chair, I then assisted her to rise upon her feet and helped her to walk. She was taken to the gymnasium, and gradually, from point to point, she was led onward, until she could do readily all the work of the gymnasium. The greatest real difficulty which we met was in the painful condition of the feet. After remaining recumbent for so long a time, the arches of the feet required a good uniform support. She has since married and is caring for her home in a normal manner.

Case 13. S. M., a young woman sixteen years of age, looked very delicate and had received much attention at home from her mother and elder sisters. For some months previous to my seeing her, had been in bed more than half of each day. On standing

up presented a convexity rather than a concavity of the lumbar spine. There were no distinctive signs, however, of disease of the part. Under the circumstances I had her work in the gymnasium, but under careful supervision, exercising great care that the work was graduated to her ability. Soon the improvement in her condition excluded the possibility of tuberculosis which had at first been suspected. Continued work in the gymnasium, assurances that there was no organic disease present, and the consciousness on her own part of gradually increasing vigour brought about a gratifying recovery. She has since married and is a happy mother.

Case 14. J. McL., a girl fifteen years of age, who had suffered from chorea some years previously, but had not fully recovered; rather a marked chronic chorea still continued. Several months of constant training brought about a very satisfactory improvement and, subsequently, a complete cure.

Case 15. M. W., a girl fourteen years of age, pale and tall, considering her age. Had suffered from a severe attack of chorea some three years previously, and like the former case did not recover, but continued to manifest quite pronounced symptoms of chorea. A similar course was followed, with a most gratifying result,—a satisfactory recovery.

Case 16. B. W., a boy of eight years, was brought to me because of lateral curvature of the spine. I advised that he come to the gymnasium for treatment, but a period of about six weeks elapsed before the family brought him to me again. During this time chorea had developed, and although the attack was acute I advised that he continue in the gymnasium, as I had advised the family. His recovery was most prompt, and almost from the first day he manifested distinctly an improved control over his movements.

In dealing with such cases as the last three referred to, it is our custom to place the patient in the back row, among those who are taking floor work in the gymnasium, and to have the instructor continue without permitting the attention of the class to be directed to the unusual and irregular movements of the patient. Two factors come into play, both of which are corrective—one is the specific word of command, given by the instructor, and the second, the possibility of imitating and following the work done by those who stand in front, and therefore in full view of the patient. In such cases the results have been most gratifying.

Case 17. M. M., a young woman twenty-three years of age, who for several months had been engaged to marry a very excellent young professional man. Some difference of opinion had arisen on a point regarded by her as important. She had at once fallen ill and, in the opinion of her family and attendant, had become paralysed. Her conduct, however, was very arbitrary and bizarre. This condition had continued for some ten weeks. When I first saw her she was in bed and professed to be suffering so much that it would be impossible for me to turn her over in the bed, to handle the extremities, or otherwise examine her. A comparatively superficial examination, taken together with her history, seemed conclusive that this was a nerve storm which should be speedily brought under control. She was living with her aunt and uncle who were in circumstances of affluence, and who were giving her every attention, although they themselves had begun to suspect that this was no ordinary illness. On giving an opinion and advising that she be removed from the home and placed where she could be under the direction of strangers, consent was readily given. As usual I gave directions as to the movements that she must make and the things that I would expect her to do. Only a few days elapsed before she was able to go to the gymnasium and take her work. I took an early opportunity to explain to her the importance of exercising self-control and pointed out the great misfortune it would be to any man to marry her unless she could direct her actions with greater intelligence and self-denial.

Case 18. C. D., a young woman twenty-five years of age, who had lived on a Western ranch, a member of a large family. This girl had been manifesting for some years a selfish disposition in relation to the other members of the family, and had caused her mother considerable anxiety. Nearly a year previous to the time when I saw her, her mother died, and the girl professed to be greatly depressed by her mother's death. Her conduct at home became so objectionable that a younger sister was sent away from home with her, and these were kept away from the family circle for some time. When the sisters came to Toronto I consented to take charge of her on condition that none of her friends should be able to communicate with her, and that she be placed absolutely under my control. Under training she made constant improvement, until she became apparently quite normal in her actions. At this time I gave her greater liberty and allowed her in company with an aunt and cousin to keep some social engagements. After her aunt left the city she showed herself less amenable to control. I spoke to her at that time more definitely concerning her conduct, reminding her of the history of her domestic doings before she came to Toronto, and informed her that she had come to Toronto in the first place to be sent to an asylum; that she was now absolutely at my disposal and if, after consultation, the course were approved, I would at once commit her to an asylum for the insane. On condition, however, that she would conduct herself in a proper manner, her course would be continued as previously. She immediately began to make improvement again, and finally left the city in good condition. A year or so afterward I learned that a relapse had occurred and that she herself asked that she return to Toronto under my care.

Case 19. Mrs. J. N., a woman about thirty-five years of age, who had been confined to her bed for most of the time for several months; had complained greatly, but indefinitely, of neuralgia. She came to the hospital with her husband late at night, and demanded of the nurse in charge that morphia be given. The nurse replied that none could be given except by an order from some member of the surgical staff. Upon examination I found no evidence of organic disease, and pointed out to the husband the necessity for exercising an intelligent control, as among other conditions manifestly the woman had become a slave to morphia, as well as to her own temper. The husband professed himself unable to decide whether my advice could be followed or not. The woman herself decided this by ordering that she be taken from the hospital.

Case 20. Mrs. H., forty-five years of age, came into my office supported by her husband and medical attendant, groaning and making much ado as she came in. Her history revealed the fact that for fourteen years, she had been an invalid, unable to take part in the ordinary duties of life, and latterly not even able to walk with crutches. By careful examination I was unable to determine that there was any paralysis or organic disease of any part. On giving this opinion to her husband and medical attendant, and also advising that she be taken entirely away from home and put among strangers, so that a constant and trustworthy supervision could be maintained and where her manner of life could be directed, both the husband and the medical attendant professed themselves unable to decide whether that course could be followed until they had obtained her consent. This of course was the crux of the situation and she certainly would not give her consent to such a proposal.

These last cases I have reported to lay emphasis upon the fact that it is absolutely necessary that there shall be some intelligent control, and that in cases where the patient is sufficiently arbitrary and has been surrounded by persons who have allowed her to dictate her manner of life, the first step toward restoration to normal conditions can not be taken unless the immediate environment can be entirely changed. In some such cases where the arbitrary conduct of the patient can be endured no longer and where they are handed over for treatment the results have proved quite satisfactory.

Case 21. G. P., the history of this man is very instructive. He had been very well educated; and taught a school for a time and was subsequently a student in dentis-

try. Feet and legs having remained wet because of walking through some fifteen miles of fresh snow, when twenty-two years of age, the limbs had the next day a sensation of numbness. It was suggested to him that this was an indication of paralysis and during the five and a half years that followed he had been in various hospitals and sanatoria and in the latter years had not been able to walk; had been constantly in bed or in a wheel-chair; never had a motion of the bowels without a local stimulant; had not definitely passed urine, but allowed it to dribble away by overflow constantly; had become quite sallow in complexion; had lost all hope and power of initiative. I first saw him in a home for incurables. On having this man come to the hospital, for some weeks it seemed impossible to impress him with the importance of keeping an engagement at a definite hour. He could not realize that he was a personality, who could have responsible relationship to his fellows. It was necessary at first to act for him, literally forcing him to perform even the simplest acts. I had a walking apparatus arranged by which he was held in the upright position by straps passing under the chin and occiput, connected with a car above, running on a track. Supported in this manner he was given practice in walking. Training was continued for several months, after which he worked on a farm and subsequently returned to the teaching profession.

Case 22. A. C., a woman twenty-two years of age, the symptoms dating back three years. The onset of trouble was gradual; there was a numbness, long preceded by loss of power. When seen in August, 1909, her lower limbs were in a state of complete contracture; the flexion was so great that the knees touched the abdomen, and the heels were pressed against the buttocks. Neither her efforts nor ours could unbend them an inch. The muscles of the thighs and legs were greatly wasted; the deep reflexes in the lower limbs, not present. There had been retention of urine, frequently making necessary the use of the catheter. Sensation abolished up to the pelvis, and blunted above that up to the costal margin; above the waist no abnormal signs. (Abstract from a report of this case by Dr. Ernest Jones, in *The Canadian Practitioner and Review*, January, 1910.)

I first saw this patient about one year previous to the time of her admission to the hospital. At that time I expressed the opinion that the case was one of hysteria. The contractures were then not nearly so strongly marked, but there was absence of sensation below the pelvis. The patient had been a student at a normal school, and at about the age of nineteen was prepared to graduate. Previous to that time she had had several attacks of hysteria, which had passed off, and she had resumed her studies. About the time of graduation she had another severe attack, from which she did not recover in the same way, and was brought to her home and put to bed. From that time until the time that I saw her, two years from the time of leaving school, she had been either confined to bed or taken about in a wheel-chair. My advice in regard to her treatment was not followed. I saw her again about three months afterward in consultation with the superintendent of a sanitarium for nervous diseases, where she was placed under treatment. She returned home without improvement, and on being asked again to see her, I expressed the opinion that there was no organic disease, and that the contractures could be corrected, and she could be restored to activity.

About two months were occupied in straightening the limbs to a normal position, no cutting of tendons or fascia. At the end of that time she was placed upon her feet and gradually taught to walk, and otherwise resume normal activity. The retention of urine was overcome partly by the use of hot applications together with suggestion and persuasion, pointing out to her the possibility of overcoming the difficulty by regular effort. Lack of sensation was the slowest symptom in the course of recovery. In fact, two years afterwards sensation had not become entirely normal. In December the patient left the hospital, able to resume normal activity and has continued in good health without any hysterical attacks during the three and a half years which have elapsed.

Case 23. M. H., a girl seventeen years old, good looking, an only child at home, with elderly parents, who had been over-indulgent. A year previous to consultation

she became nauseated, and, for a period of six weeks, continued to vomit to such an extent that she was much reduced. Was kept in bed, complained of pain in lower extremities which became deformed through contractures at ankles, knees and hips. Among other drugs morphia was given for the pain, and had continued to be given up till the time of consultation. After six weeks from the commencement of her illness, the vomiting ceased, but pain and contractures continued and her general nutrition and condition improved. Early in April, one year after the commencement of her illness, the feet were retained in a position of equinus, at an angle of 120° , knees retained in flexion at an angle of 135° , and the hips flexed so as to cause a marked lordosis when extension of the thighs was attempted.

Without cutting any tendons the contractures at ankles, knees and hips were reduced by manipulation, under anaesthesia, and the improved position retained in a plaster dressing extending from the thorax to the toes. There was, however, great complaint of suffering and a demand for morphia, in which the mother took a decided part. This was found a real obstacle in the treatment of this girl, as the mother remained in the city while the daughter was under treatment and by her visits to the patient, greatly interfered with the treatment and progress toward recovery. After a period of three weeks the plaster dressing was removed and further correction of the deformities effected. Throughout the treatment the mother's interference proved a very considerable barrier. Having the girl under control, however, in the hospital morphia was not administered and gradually her complaint of pain and demand for morphia subsided. When the limbs were straightened then commenced the usual course of training so as to reeducate her in the power of walking.

There are one or two important lessons which may be learned from the report of this case. It is nearly always a serious error to allow the parents to have access to such patients as these. Their association and indulgence has frequently been the cause of the troubles which have arisen and their influence should in nearly all cases be eliminated.

Case 24. Mary D., fourteen years of age, had for some years presented anomalous symptoms in her locomotion. The difficulty at different times aroused a suspicion of hip disease, of infantile paralysis or of tubercular disease of the spine. In the gymnasium she was greatly interested in her work; could vault, climb, dance, perform very complicated steps and do other difficult feats gracefully. She could "run in place," but when urged to run in the ordinary way, she found that her right leg soon lagged behind, became heavy and she desisted or fell down. On the street she could not walk fast or run, but failed as in the gymnasium. The most careful examination and observation, extending over some years, failed to elicit any satisfactory local cause. Pain was not complained of; no local or general atrophy; no limitation of motion at any joint; no points of tenderness. I consulted a leading neurologist who had her under observation on different occasions and although he offered no explanation of her peculiar behaviour, yet he reported her a mental defective.

Though we gave her the utmost care and attention, we did not succeed in overcoming her inability to run.

Case 25. Mary R., twenty-four years of age. Four years previously to my seeing her, she had uterine hæmorrhages. The uterus and ovaries were removed, keloid developed at the point of incision and afterward broke down. She had been in bed much of the time and in later months had not been able to stand up because both feet had been drawn plantarward until the long axis of one foot was in line with the leg and the other carried still farther, so that the anterior portion of the foot, and especially the toes, were directed backward.

Several manipulations, under anaesthesia, replaced the feet without cutting any structures and under training she speedily regained power and normal locomotion. She has, however, a recto-vaginal fistula and other pelvic difficulties. Notwithstanding these latter she continues to be upon her feet, wearing night braces to retain them in a normal position.

The foregoing cases are reported as fairly representative of these rather anomalous conditions, and especially to emphasize the efficacy of training and discipline in treatment.

In the last quarter of a century great advancement, based upon physical findings, has been made upon well tried and recognized lines in medical science; yet the interest in such progress is not more in evidence than is the trend toward the study and practice of the mental or psychic relations of disease. People have run much after those professing "faith cures", "mental healing," "Christian Science," etc. The very large number of people who have sought help in these ways, should suggest to the student of medical science the wisdom of investigating this field with a view to laying down rules based upon sound science for the guidance of those who need his help.

There is a very large range of affections which disturb the comfort, the efficiency and the usefulness of men and women, not to be classed with recognized organic disease, and not descending to the plane of insanity, in the care and treatment of which it is wise to avoid the taint that attaches itself to any form of asylum treatment. These imply a lack of wholesome self-control, of proper blending of the thoughts and actions which make up well rounded, well constituted manhood and womanhood—mental attitudes and behaviour which are somewhat short of sound sensible sanity, where there is some tendency, hope or purpose which disturbs the proper equilibrium of conduct and lowers the standard which common men recognize as the standard belonging to a well ordered life. In these, some form of well directed discipline laying emphasis strongly and broadly, but indirectly, upon moral conduct, is a wholesome mode of approach.

Large as is the place which the emotions, the affections and the passions occupy in life, yet without the supreme control of the will, these run riot with the individual as completely as the wild-cat engine, without the engineer, runs riot with his train.

That mind exercises a great influence upon matter is a truism which we have uttered since childhood, but have largely neglected in its scientific aspects. The psychologist, however, is calling urgently and directing our attention to the large place in the scheme of life held by the spirit in its influence and control over that which is material. In the course of development every motor force is in time provided with its appropriate control. At birth the child can move its muscles and limbs but cannot coördinate them so as to walk. So in the domain of the spirit, the emotions and affections

first come into action and later the faculties of control, the reasoning power and the will. Force, character, sanity, efficient behaviour, must depend largely upon the proportionate development of these inter-related human faculties. Those who through defective education of the will allow themselves to subordinate reason, conscience and judgement to their emotions and passions and thus become the victims of caprice, must be constantly storm-tossed amid the contending attractions and complexities of life.

It may be said truly that each individual's entire range of being is made up of three factors—heredity, environment and personality. If the individual is handicapped by bad heredity, the soil is suited to the growth of rank, unreasonable and unreasoning fantasies, such as characterize the hysteric. If further hampered by an unfavourable environment then the problem of rescue from a misdirected life is a difficult one, and imposes grave responsibility upon those who may become charged with the care and direction of such a patient. It is certain that children inherit from their ancestors certain capacities and tendencies, and that they react to the influences and agencies about them, and that education and companionship enter as truly into the composition and correction of character as does inheritance. It is also certain that each person possesses power to develop, to guide and to escape from or modify the conditions surrounding him. How far heredity and how far environment determines character is a hotly disputed question; but it is certain that, in every individual, there is an element which can not be accounted for by inheritance or environment. There is the personal element which refuses to bend to influences however great, whether springing from hereditary bias or exerted from the outside upon the individual. This element is *personality*. It is a weak, pusillanimous, and fatalistic view of life to assume that there is not a third element—personality capable of throwing off heredity's taint and environment's fetters, to rise into a new life as truly as the caterpillar evolves into a higher life. A man is or may become the architect of his own fortune—

"It matters not how straight the gate,
How charged with punishment the scroll;
I am the master of my fate,
I am the captain of my soul."

The purpose of treatment should be to evolve and cultivate this third element in the scheme of life.

Many of the patients referred to in the forgoing histories have

suffered from some form of physical trauma which constituted the occasion of their illness. Frequently this was slight, but the patient being readily open to suggestion, the tenderness and weakness which are legitimately consequent upon bodily injury, readily became permanent, and liable to great exaggeration. While the subject of heredity is doubtless a matter of great importance in the consideration of these cases, yet the fact that it is outside of our control renders the consideration and the study of their *environment* a matter of vital importance, and the development and education of the *individual personality*, a matter of supreme importance. In the study of the condition and outlook of such patients, the domestic relations, the love affairs, the advice and attitude of the medical attendant, are all potent factors; and a careful consideration may enable us to place the responsibility where it chiefly belongs. A careful analysis of the patient's state should be made in which all the avenues of the soul may have to be explored. Modern neurologists are pretty well in agreement that suggestibility especially characterizes the hysteric—a suggestibility so extreme that once an idea has taken possession of the mind there is an irresistible and automatic tendency to translate it into action. In most of the cases related it will be observed that unwholesome, foolish suggestions were largely responsible for their disabled condition and invalidism. Just as wrongful suggestions may be responsible for the course of error into which patients fall, so helpful, wise, hopeful suggestions may be, and are, available as valuable therapeutic agencies. These may be employed in the normal waking state or when the patient is hypnotized, in which latter state, the patient is acted upon rather than taught to become the actor—a state which implies that though the patient move toward betterment, yet the bracing and inspiring effects of conviction and *self-control* are absent—the control is exercised by another and consequently there is a failure to gain the *self-control* which results from self-effort. I am disposed to say that suggestion is a weak word as expressing the basis of treatment, and that we should rise to something stronger, more tonic and bracing. Suggestion seems to imply a passive state in which the patient follows indifferently and without resolve, one where the emotions hold sway. The intellect has not been grasped and convinced, and the patient moves toward the right, not because she knows it is right, but because a superior outside control, not herself, is dictating her course. Education and discipline are better words. The physician should hold himself responsible for devising means by which the

invalid may be instructed and convinced of the error and therefore the folly of her ways, in order that her enlightened judgement may, under guidance, see, choose and resolutely pursue a wise course.

The approach to these patients in order to be successful should be indirect rather than direct; that is their will and judgement may not wisely be approached at first; better make it indirect by employing simple and usually physical agencies to train the will, to call it into activity gradually and in such a manner as may not arouse opposition in the patient. In my own practice I have found the physical training of the orthopedic gymnasium a potent agency in attaining this end. The particular work done in the gymnasium is not so important as that the director shall possess tact, and shall be well instructed by the physician concerning the peculiarities of each patient and the course to be followed. The work ordered must never be so difficult as to be beyond the patient's ability or appear discouraging; but when once assigned, its accomplishment must be enforced. As far as possible the work should be done in classes, the patient working in company with those who are able to exercise self-control and to obey promptly, exactly and cheerfully, the orders of the physical director. The gymnasium in its general effect is helpful through improving strength and general health through exercise; but it is not for that purpose chiefly that it is employed, but that discipline may be readily enforced—discipline which is kindly and rendered easy by the agreeableness of the work to be done in company with others. The chief desideratum is discipline and the creation of an ideal toward which the patients may reach, the establishing in each one of a clear conception of personal duty and responsibility, and the confidence that application will reach the ideal and will insure that the responsibilities imposed by society will be creditably borne. I know of no agency which will afford a more agreeable and efficient means of discipline, more helpful to free, genial, wholesome association with one's peers, than is afforded in a properly conducted gymnasium. A successful, tactful director has an opportunity to cultivate an *esprit de corps*, and a concentration of attention upon something outside of self that is not easily secured otherwise. It requires knowledge, good judgement, tact, firmness and a manifest devotion to the interests of others, to direct this work successfully.

Some work, however little, should be accomplished every day, the hour assigned for it definite, the regimen in every way exact, and must proceed from lesson up to lesson to exercises more difficult,

complex and exacting. While high standards must be maintained, yet no word of discouragement must be uttered. There must be maintained an atmosphere of sincerity, thoroughness, cheerfulness and confidence. Thus led on from day to day the patient learns that she can accomplish the impossible; that the disagreeable becomes agreeable; that activity is more pleasant and satisfying than idleness; that responsibility borne is better than opportunity lost. It gradually dawns upon her that the course of sanity is to step back into her place in the procession of humanity in order to bear her part in the world's work.

There are other means of great variety which may be employed. Clay modelling may be advised, or other means of physical work which may be rendered agreeable. It is better that the coarser and larger groups of muscles of the body rather than the finer be engaged especially at first. It is essential in all cases that the work be done under competent supervision and that an interest be aroused.

To accomplish this requires, on the part of the practitioner, close observation, patient analysis, a confident bearing, conduct that is transparently sincere, an earnest purpose to effect the cure of the invalid and statements which do not vary from the truth.

The mental factor is ever present, and in a small proportion of cases it overtops and overshadows all other features, and in some it is the sole pathological element present. The practitioner knows that he is always reckoning with the psychic manifestations of his patient, as well as with the purely physical. In a considerable proportion of them he soon reaches the conclusion that the successful management of this phase of his work is the more important because it dominates the other. Woes and pitfalls are numerous in the pathway of those whose eyes are holden so that they can not see this primary phenomenon.

The first essential in each of these patients is to make a diagnosis. To be led or misled by the symptoms given so much prominence is likely in each patient to lead to a life of chronic invalidism. An uncertain diagnosis betrays vacillation which is easily perceived by the patient, and is completely destructive of confidence and trust.

The terms employed to designate these psychic states are various and are used with a varying significance. The terms neurosis, psychoneurosis, neurasthenia, psycasthenia, nervous prostration, nervousness, nervous disorder, are terms whose significance varies largely according to the views of the writers employing them. There are some general characteristics, however, common to all the

cases. There is always present, disharmony with the environment, a general impressionability, liability to suggestion, and, judged by fair average standards, a course of behaviour which betokens something below the level of safe, sound sanity.

It has been my practice to avoid detailed explanations at first, but to demand and secure obedience to my directions and to arrange somewhat minutely and arbitrarily how the hours and minutes should be spent. Always the patient must be lifted out of the old environment, from home, from affectionate, though unwise and harmful, domestic influence. The director of the gymnasium must be tactful, sympathetic and capable of exercising a positive but kindly discipline. It is certain to be harmful to allow these patients to associate freely together. When we have had a number of them in the hospital at the same time there was shown a marked disposition on their part to flock together and talk about their troubles, thereby greatly accentuating them.

The parents and others in the home may have become convinced that there is an element of unreality and inconsistency about the patient, but uncertainty dogs their footsteps and nullifies every effort. They want a safe guidance which manifests no uncertainty, a voice that speaks with positiveness which gives them confidence that there is a pathway out of the wilderness of doubt.

Conduct that is insincere proves ruinous of that esteem on the part of the patient which is essential to success. Strange that it should ever be held and taught that deception toward these patients is justifiable; it is the sure road to loss of influence and consequent failure. Each fruitless effort to lift the patient from the slough of despond causes her to drop back, to sink deeper than before, where hope is less bright and prospects of eventual recovery more distant.

Though the practitioner sooner or later must follow such a course as will reveal the patient to herself, yet it is generally unwise to attempt to do so at first. The indirect mode of approach has manifest advantages; these patients must be fed with milk and not with meat, as they are not yet able to bear it.

A majority of these cases are not unmixed psychoses—commonly there is or has been a physical ailment or disablement which becomes the occasion of the psychic obliquity. Though the actual physical disabilities have passed, yet the psychic impression remains and is being translated into action. Reasonable scientific tests should be applied and the history should be carefully weighed. In the history of case number twenty-four who could not run because the right leg always gave out, it is important to notice

that she could run in place, perform fancy steps, could execute very difficult forms of marching, all without failure or difficulty, but immediately when asked to run in an ordinary way, though in company with others, the steps of the right foot became shorter than those of the left, the feet soon became tangled and she fell. The most careful physical examination revealed no defect in the right limb; tested individually the groups of muscles were equal to corresponding groups of the left; there was no evidence of atrophy, every joint was freely moveable, at no part was there swelling or tenderness. There seemed to be an irrational and inexplicable mental block. In case number five it was found impossible for her to remain erect and hold up a book so that she could read, because "the spine was found unable to hold the head in normal position". In spite of this fact when standing erect and all ordinary tests were applied to the movement of the spine, every part seemed entirely normal. In this latter patient the suggestion had been made that as a result of the accident her spine had been fractured, and injury done to the spinal cord. Continuance of her work with other patients convinced her, in a very short time, of the error of her impressions and her complete and satisfactory recovery came about very shortly.

Pain is the most common misleading factor. It is generally greatly exaggerated. If no satisfactory physiological explanation can be found, it should at least be suspected that it has a psychic origin. The physiologist can usually trace symptoms to their legitimate physical causal origin. Failing to find such a cause, suspect the psychic element.

The greatest caution and the most careful analyses are required where there is an exaggerated neurotic element, associated with a genuine physical disablement. It is most important to determine the extent and limits of each. It is folly and creates distrust and opposition in the patient to belittle genuine physical ills. Sharp distinctions must be made, and in most cases the surgeon who analyses correctly and assigns due weight to each element will gain the confidence of the patient and his pathway to success will be made easier.

The patient must be made alive to her relationship to her social environment; she must learn to look away from herself and realize that others have claims upon her thought and sympathy; she should become an optimist and not a pessimist; she must exchange selfishness for altruism.

In the management of this class of patients there is a line of

teaching radically different from that advocated here, teaching which seems to the writer wrong in method, in principle and in results. In the psychological study of these cases Freud has proposed and practised a system of "psycho-analysis"—exhaustive tracking back and uncovering of some forgotten or hidden experience which was the definite starting point of the present obsession of the patient's mind. The past is dissected back and back till something is found which explains everything and may thus be explained to the patient as the primal cause of her trouble. This underlying or subconscious something, which is at last reached, and detected, is something sexual. "I can only repeat afresh," says Freud, "the principle which I have never found otherwise than true, that sexuality in the main is the key to the problem, both of the psycho-neuroses and the neuroses, and he who disdains to use this key will never be in a position to solve them." Probably few persons have either the skill or the desire to be inquisitors on this grand scale; and is there not danger that the inquisitor may put into the patient's mind what he subsequently finds there? My study of these cases does not justify the statement that sexuality is so prominent a causative factor.

If there has been an unfortunate experience, a moral trauma, of which these patients are ashamed, which their better selves would shun and forget, to which they have no desire to return, and from which they wish to escape, so that the memory of it has disappeared into the limbo of the long forgotten past, is it reasonable that any good can result from tearing open the wound afresh and exposing the patient to still further humiliation and regret? Is it a humane purpose? Is it rational? Is it not better to let the dead past bury its dead, to let bygones be bygones, and to encourage the unfortunate psycho-neurotic to look upward and outward instead of compelling her to mingle with the humiliating regrets of past errors?

The illustration employed by Freud and his school is misapplied, misleading and illogical—stating that there has not only been a psychic trauma, but that there is a psychic element which must be uncovered and cast out, just as a foreign body in bone, muscle or intestine must be removed, that the uncovering of the original wrong, the bringing it back into consciousness constitutes a psychic purge or diuretic or the equivalent of a surgical operation by which the foreign body is cast out.

If the diagnosis at first is uncertain, if the physician is unprepared or unqualified to give due weight to the personal element in

his patient, his course must be vacillating. Uncertainty at this point means failure for the practitioner and disaster for the patient. He should maintain a confident and assuring manner, not based upon guesses, but upon knowledge. If at a time when his patient is complaining of conditions which quite naturally are consequent upon a physical trauma (even in healthy tissues), he dilates upon the necessity for caution, lest some complications may set in, and advises prolonged rest and nursing, or if he advises narcotics, he is venturing upon dangerous ground. Injury in healthy tissue tends to repair and demands its own proper time and conditions. When these have been furnished and the proper time for functioning has arrived, it is essential to good health that functioning should be resumed. Uncertainty here is disastrous, leading to the harmful employment of rest instead of activity, to the use of drugs and to a morbid craving for the sympathy of friends. Not only is the physician causing delay in recovery, but he is planting the seeds of noxious weeds, in a soil which may be peculiarly suited to their growth.

In the literature dealing with this subject, suggestion occupies a most prominent place. Suggestion to the patient in her normal waking state or when hypnotised. Personally I have had no experience with hypnotism. I prefer to deal with my patients on a higher plane, where, at the proper time, I can appeal to their higher conscious personality, keeping clear of the occult and uncanny; seeking to instruct, not by ways that are devious, but to control, educate and convince by candour, and regular physical training, graduated daily, to meet the needs and abilities of the patient. I employ the orthopedic gymnasium constantly, not because it has capabilities of bringing results not otherwise obtainable, but because in it I have a training school which otherwise occupies a very large place in my therapeutic armamentaria. I find it a very effective means of enabling me to exercise the discipline so essential in the treatment of these patients. It affords a means of reaching the mental through the physical. Obedience to the word of command—obedience that is prompt, explicit and exact, encouraged by the example of others working in the same class, secures promptness of action, begets a more wholesome frame of mind, begets and develops self-control, and leads on to self-mastery.

It is important that the physical director shall exercise much tact in grading the work and in her conversation—much firmness must be combined with the insight which determines when and how

much to yield. The process is not one of breaking but of bending—not one of compulsion but of education. Though explanations may not wisely be given at first, yet the time soon arrives when a degree of self-confidence has been restored, when a desire for better and saner conduct has taken possession and when, under the guidance of an intelligent, forceful, sympathetic adviser and director, the patient finds herself measuring up creditably to the standards of those about her. When this more wholesome state is evident then the psychological moment has come when the surgeon may take the patient into his confidence and give instructions and make explanations. The deepest and truest gratitude will often be manifested by these patients for the help afforded. It is an error to suppose that their irregular and unreasonable conduct is the result of decision and purpose on their part, to be unruly; they are commonly full of doubt, they lack self-confidence, they have let the ship's rudder go without control, they are storm-tossed and unhappy. When they can be guided to a condition of wholesome sanity, they welcome relief.

A marked feature of this method of education which engages the patient's intellect, calls out her self-confidence, gives her self-control and self-mastery, is that relapse seldom follows. Many of these patients volunteered the statement that they had become acquainted with themselves and were resolved never to lose control again—a statement which expresses very succinctly the central purpose and result of treatment.

THE forty-third annual meeting of the board of governors of the Western Hospital, Montreal, took place January 18th. The number of patients treated in the hospital during the year was about the same as during 1914, but there was an increase in the number of outdoor patients, of whom 15,810 received attention. The financial report showed a deficit of \$8,749.

Case Reports

CYSTIC HYGROMA IN AN INFANT

BY MALCOLM H. V. CAMERON, M.B.

Toronto.

BABY M., born July 19th, 1915, in the Cottage Hospital, presented at birth a tense fluctuating mass on the left side of the neck. This mass obliterated the line of the jaw and chin, was spheroidal in outline, and displaced the larynx toward the right. It half filled the mouth, completely filled the pharynx and effectively prevented breathing. A finger passed into the pharynx displaced the tumour from its pressure upon the larynx and the child breathed. When the finger was removed, breathing ceased and the child became cyanosed.

The father was called and permission was obtained for immediate operation.

Preparation was not elaborate. The skin was conceded to be sterile, but a little tincture of iodine was applied as a precaution, while the instruments were boiling. Respiration was kept up by holding the tumour away from the larynx until the operation began. Cyanosis deepened and when the incision was made along the lowermost crease of the neck on left side, the child did not flinch, nor did the wound bleed. The left sterno-mastoid muscle was retracted and a plane of separation found beneath the deep fascia of the neck. The tumour was quickly separated as far as the middle line of pharynx behind, when it was opened and its watery content evacuated. The wall of the cyst was then clipped at a safe distance from the carotid sheath to which it was attached, the cavity packed and the skin closed to within a quarter inch of the lower end of the incision. Black blood began to flow as the last of the cyst wall was clipped away, and the child cried as the last of the sutures were being inserted.

The day following the operation, there was blood-stained vomit. The next day blood was found in the stool, and on the

third day there were petechial hæmorrhages on the body and in the mouth. On the fifth day the child had lost three and one half pounds and was apparently moribund. A request was made for permission to do direct transfusion of blood, but this was refused. One ten cc. dose of normal horse serum was given, and on the sixth day the child was nursing. The wound healed by first intention, and in three weeks there was no evidence of sinus formation, and the scar was to be noted merely by a contraction in the platysma near the lower extremity of the wound.

These cystic hygromata or cavernous lymphangiomata are described by Raymond Johnston, Choyce's "System of Surgery," as being "not very uncommon". "They are always congenital, although they frequently enlarge after birth. They form lobulated masses, often of large size, through which the lymph-containing cysts appear of a bluish color. The tumor consists of a mass of cysts of varying size held together by connective tissue containing fat. In some instances, the tumour has a mixed character, being partly hæmangiomatous and partly lymphangiomatous. The limitation of these tumours is usually ill-defined, and the growth may extend among the muscles and other deep structures. The fact is of great importance in considering the question of operation, for, although excision has been successfully practised, it is hardly likely to be complete, and the operation may be accompanied by very free bleeding."

In this case the operation was undertaken merely as a relief to the mechanical obstruction of the trachea. A less complete excision or a simple drainage of the cyst might have accomplished this purpose but the fear of hæmorrhage from a hæmangioma determined the exposure of the tumour. When this was done and a clear line of cleavage found, it took but a few moments to complete the removal of the mass.

THE Universities of British Columbia, Alberta, Saskatchewan, and Manitoba have offered to raise a battalion for overseas service, and to supply a field ambulance unit.

Editorial

A WELL-DESERVED HONOUR

THE members of the Canadian Medical Association will be delighted to learn that their president, Dr. Murray MacLaren, has been honoured by the King. Dr. MacLaren has been actively associated with the Canadian military organization for many years and was among the first, if not the first man, who signified his willingness and desire to do overseas work. Colonel MacLaren, C.M.G., enjoyed a large practice in St. John and took a prominent part in the social life of his city in addition to his military duties. He has always been one of the most regular attendants at the meetings of the Association and when he was elected to the presidency, the members generally felt that it was an honour well merited. Those who were present at the meeting in St. John will remember the excellent programme provided, and the unique and enjoyable social entertainment. His services overseas are rendered at considerable sacrifice and it is a great satisfaction to all his friends that his work as Commanding Officer of No. 1 Canadian General Hospital has been of such a high and efficient character that it has been recognized by the military authorities and the King. A man of few words but genial presence, a judicial mind, and high ideals, he has fulfilled the arduous duties of a Commanding Officer with conspicuous ability. We understand No. 1 General Hospital has handled eleven or twelve thousand cases which is sufficient evidence that it was needed and that its equipment in personnel and appliances was of a high order.

CANADIAN MILITARY HOSPITALS

MENTION has been made already in these pages of the establishment of convalescent hospitals at different points throughout the Dominion for the treatment of returned soldiers who have been discharged as medically unfit and still require medical treatment. The magnitude of the work undertaken by the Military Hospitals Commission will be better understood from the following account of the cases which have received treatment in one district only. At Montreal there are the homes conducted by the Khaki League and the Grey Nuns. On August 21st, 1915, the Khaki League's Home, 46 Belmont Park, was opened with accommodation for 45 patients, and shortly afterwards the annex of St. George's Home was taken over where there is accommodation for 35 patients. About the middle of December the Grey Nuns opened their Convalescent Home with its accommodation for about 200 patients. In this short notice reference is made only to the work done at the homes under the Khaki League. In these homes which are under military administration, there is a staff of medical officers, nurses, and orderlies, and an excellent equipment of baking ovens and electric apparatus has been provided. Among the nursing staff, which is purely voluntary, there are a number of trained masseuses who are doing excellent work and the results obtained in cases of rheumatism and conditions resulting from wounds are most gratifying. Since these homes were opened, 270 patients have been admitted, and at the present time 76 are receiving treatment.

The diseases and injuries show great variation and treatment has been given in the following conditions: rheumatism, 22 cases; gunshot and shrapnel wounds, 30 cases; gas poisoning, 17 cases; bronchitis, 10 cases; post pneumonia, 2 cases; post typhoid, 3 cases; laryngitis, 11 cases; pharyngitis, 15 cases; tonsillitis, 5 cases; jaundice, 2 cases; valvular disease of the heart, 2 cases; appendicitis (post operative), 4 cases; hæmorrh-

hoids (post operative), 3 cases; varicocele, 8 cases; sacro-iliac strain, 2 cases; sprain of spine, 3 cases; blistered feet, 3 cases; cellulitis, 6 cases; crushed finger, 2 cases; sprain of ankle, 2 cases; tenosynovitis, 2 cases; general debility, 6 cases; nephritis, 3 cases; asthma, 6 cases; varicose veins, 2 cases; traumatic arthritis, 2 cases; nervous shock, 4 cases; enlarged heart, 2 cases; otitis media, 2 cases; burns of hands and arm, 2 cases; flat foot, 2 cases; one case each of fracture of the tarsus, fibula, clavicle, metacarpal bones, metatarsal bones, scapula, astralagus, and bones of the skull; two cases of fracture of the radius and one case of each of the following conditions, sebaceous cyst of finger, endocarditis, pericarditis, myocarditis, ascitis, pulmonary tuberculosis, musculo-spiral paralysis, otitis interna, contracted elbow joint, crushed knee, sprain of knee, hysteria, severe wound of the head, femoral adenitis, boil of hand, defective vision, hammer toe, trench foot; and cases of numerous other minor conditions.

The injuries to joints have been treated by massage and baking and a large number of cases have shown marked improvement. In a number of cases of atrophy of the muscles following injury to the nerves by bullets and shrapnel, good results are being obtained by massage and electricity. The cases of gas poisoning show shortness of breath and rapid action of the heart on exertion. In such cases, a good tonic, combined with rest, appears to be of some benefit, but the responsive action is very slow. Other minor conditions are given the usual treatment.

THE American College of Surgeons begins the new year with an announcement that it has secured from its Fellows an endowment fund of \$500,000. This fund is to be held in perpetuity, the income only to be used to advance the purposes of the College. By this means lasting progress toward the purposes of the College is assured.

The College, which is not a teaching institution but

rather a society or a college in the original sense, now lists about 3,400 Fellows in Canada and in the United States. Without precedent for swiftness of development it stands to-day a powerful factor both in the art and in the economics of surgery.

Primarily the College is concerned with the training of surgeons. But the significant fact in connexion with the endowment just secured is that it has come from the surgeons themselves, inspired by a motive for better service to the patient. Ideals in the profession of medicine are living things. Probably no more convincing proof of this fact exists than the sacrifice which the surgeons of this continent have made willingly in order to raise this fund.

To begin with, these ideals are to find concrete expression along the following lines of activity:

1. Since the whole problem of the training of specialists for the practice of surgery is the primary purpose of the College, the Regents propose at an early date to present a clear conception of the College to the undergraduate medical students of this continent. The Regents, further, will ask each senior student of this group who has in mind to specialize in general surgery or any branch of surgery to register with the College. As these students, then, serve later as internes and as surgical assistants, they will be requested to report these facts to the College. The College, in turn, will systematically seek information as to the ability and character of such men; and the information thus obtained becomes the basis of admission to Fellowship in the College. In addition to this procedure, the Regents will insist upon the proper keeping of case histories, and they will endeavour to stimulate in these men in training right ideals of medical practice. In this programme they ask the active co-operation of the faculties of the medical schools and of all practitioners of medicine.

2. Inasmuch as proper training in surgery is inseparably involved with the conduct and efficiency of hospitals, the

College will seek accurate data on all matters which relate to hospitals. From time to time it will publish studies upon hospital problems, the purpose being always to be helpful to the hospitals. These publications, further, will inform recent medical graduates as to where they may seek adequate general or special training in surgery. To be concrete the College will deal with such problems as (a) the proper equipment for medical diagnosis, *e.g.*, well equipped laboratories for chemical, pathological, and *x-ray* work; (b) the proper forms for case histories and the facilities for keeping these records; (c) the management and the curricula of the nurses training schools; (d) the specialization essential in any well organized hospital.

3. The College will ask the faculties of medical schools to consider the advisability of conferring a supplementary degree of proficiency in general surgery and in the various specialties of surgery.

4. The College will issue readable monographs, educational in nature, to the press, to the general public, to hospital trustees, and to the profession of medicine upon subjects of medical procedure and the whole meaning of fitness to practise surgery.

The entire impetus of the College springs from within its own membership. Necessarily that impetus implies reform. But there is a vast difference between reform preached at men and reform innate in the hearts of men which finds expression at their own initiative. Whatever impetus the College possesses, it originates among the surgeons themselves. It is not an extraneous force or an "uplift" movement. But rather, out of the widely divergent views on many subjects among the Fellows, the aims of the College rise as those time-tried aspirations which are inherently the basis of all that is valuable in the vocation of surgery. The purposes of the College are concerned directly with matters of character and of training, with the betterment of hospitals and of the teaching facilities of medical schools, with laws which relate

to medical practice and privilege, and with an unselfish protection of the public from incompetent service; in a word, they embody those ideals which have stood the test of centuries. Upon these the Fellows are united. These are the ideals which each Fellow, singlehanded, has endeavoured to foster, and the expression of them to-day through the College comes as a sort of mass-consciousness of the whole body of Fellows. The splendid fact is that the Fellows have grasped in an instant the meaning of the College by a process of fusion and they have gladly made sacrifices for its success.

As one comes into wide acquaintance with the Fellows of the College and catches some fair notion of their earnestness, he sees the future of the organization not by means of logic. There is something more subtle and potent than argument. A determined optimism carries a momentum of its own. Without a logical process it seeks concrete expression; and, more than this, it really recreates circumstances through all shifts of weather or play of incident with a certainty not excelled by an utterly rational course. The Fellows of the College, in their widely scattered districts, fuse their consciousness of the organization with a splendid hope in their hearts to advance all that is important and valuable in the profession. This very attitude of mind is the first promise for the future of the College. It is a promise that admits of no defeat. It is a pledge of loyalty to medical patriotism which means loyalty to the public welfare exercised through intellectual sincerity and scientific accuracy. It means a safeguard to the public, for it indicates where honest and adequate surgery may be found.

THE demand for medical officers naturally has become more insistent as the British army has increased, and the urgency of the situation has been added to by the developments in the Balkans and in Mesopotamia. It was stated by Mr. Tennant in the House of Commons a couple of months ago that the total number of army medical officers then em-

ployed was about ten thousand. Since then the Director General has made a request for an additional two thousand five hundred medical officers who were needed before the middle of last month, and requests for more medical men have been made to Canada. No organization has been formed in this country to deal with matters relating to the profession arising in connexion with the war, but a splendid response has been made by the profession to the needs of the situation. In England such matters are in the hands of the Central Medical War Committee, which has grown out of the committee organized by the British Medical Association in January, 1914. At the request of the military authorities, a census of all the qualified practitioners who are available for service overseas is now being taken in each military division in the Dominion.

THE question of a hospital's liability for the negligence of a nurse was brought up at the recent case of *Levere versus The Smith Falls Public Hospital*, which was decided in December by the Appellate Division of the Supreme Court of Ontario. The plaintiff, suffering from *prolapsus uteri*, entered the hospital as a private patient, agreeing to pay \$9.00 a week "to include her board, attendance and nursing". An operation was performed which was successful but the patient on recovering consciousness, complained of pain in her right foot and an examination revealed a severe burn on the heel, caused by an overheated brick placed against her foot by the nurse in charge. Judgement was given in favour of the plaintiff and damages were awarded to the amount of nine hundred dollars.

AN interesting account of three cases of anthrax in man, one of which was fatal, was published in the *Lancet*, January 1st, 1916, page 20. In each case the infection was traced to the shaving brush used, and other shaving brushes pro-

cured from the same source were also found to be infected. Tests were applied to ascertain whether a thorough washing would free the brushes from infection. This was found not to be the case, although the danger of infection was minimized considerably.

WE learn from the *British Medical Journal* that a military medical society was inaugurated a few months ago "somewhere in France", and some very successful meetings have taken place. An opportunity is thus given to the medical officer to meet his fellows, to discuss with them problems presenting themselves in his work, and to reap the benefit of the experience of others. Before the business proper of the meeting commences, half an hour is spent socially when old friendships are renewed and new acquaintances made. A representative was nominated by each hospital in the district and these members in turn elected the following officers: President, Colonel H. Carr, C.B., A.D.M.S.; vice-presidents, Lieutenant-Colonel K. Cameron, of No. 1 Canadian General Hospital, Major T. J. Horder, and Major M. Dunlop; honorary secretary, Captain Archibald Leitch; executive committee, Dr. Francis E. Fraser, Captain H. Pritchard, and Captain F. L. A. Greaves. The meetings of the society are held in the recreation hall of the Hospital of the St. John Ambulance Brigade, which is under the command of Sir James Clark. Among those who took part in the second meeting of the society, which was held on September 17th, last, was Captain A. H. Pirie, of Montreal, who read a paper on localization of foreign bodies in special regions, especially in the upper parts of the limbs, the eye, and the pleural and pericardial sacs.

IN order to avoid overlapping in the work of the two societies, a Joint War Committee of the British Red Cross and the St. John Ambulance Association was formed in Octo-

ber, 1914. A report of the work done during the year ending October 20th, 1915, was recently published by the Joint Finance Committee. The total amount expended during the year was £1,642,271 6s 5d, of which £446,400 was spent on motor ambulance cars. The majority of these cars have been engaged in the transport of wounded in France and Flanders but others have been maintained in Egypt, Serbia, Malta, Italy, and Great Britain. Ambulance launches have been maintained in the Mediterranean and in the Persian Gulf. Four ambulance trains have been provided at a cost of £44,000. Heavy expenses have been entailed by the establishment and maintenance of the St. John Hospital at Etaples, the British Red Cross Hospital at Netley and the King George Hospital in London. Contributions have also been made to the base hospital at Nairobi, and the Cameroons Field Hospital for the Wounded of the North Eastern Rhodesian Field Force, and to the Anglo-Russian Hospital, as well as for the benefit of soldiers and sailors who have been crippled or blinded.

Book Reviews

TEXT-BOOK OF SURGERY, FOR STUDENTS AND PRACTITIONERS. By GEORGE EMERSON BREWER, A.M., M.D., professor of surgery at the College of Physicians and Surgeons, Columbia University, New York; assisted by ADRIAN V. S. LAMBERT, M.D., associate professor of surgery, College of Physicians and Surgeons, Columbia University; and by MEMBERS OF THE SURGICAL TEACHING STAFF OF COLUMBIA UNIVERSITY; third and enlarged edition, thoroughly revised and rewritten. Lea & Febiger, Philadelphia and New York, 1915.

One may safely bespeak for Brewer's "Text-Book of Surgery", third edition, a very generous reception not only because of its excellence, but also because of the high esteem in which the editor and his collaborators are held. Brewer's text-book may be taken to represent New York surgery. One here finds in one volume a very satisfactory exposition of the best surgery of the day.

Fractures and amputations receive their merited attention and are well illustrated. The chapter on shock, a subject receiving considerable attention at present, gives concisely yet clearly the different theories as to its cause. More experimental work and further accurate clinical observations are needed, however, to clarify satisfactorily this important condition. In the chapter on enlarged prostate but little prominence is given to the work done by Tandler and Zuckerkandl, which presents the subject in a new and different light. The chapter on goitre has been rewritten and brought up to date. One also finds the surgery of the face and larynx, subjects in which the editor has been especially interested, very full and clear. Taken as a whole the book is to be highly commended to students and practitioners.

HANDBOOK OF PHYSIOLOGY. By W. D. HALLIBURTON, M.D., LL.D., F.R.C.P., F.R.S., professor of physiology, King's College, London. Twelfth edition, with nearly 600 illustrations in the text. Philadelphia: P. Blackiston's Son & Company, 1012 Walnut Street, 1915. Price, \$3.00 net.

What is the use of writing a review of a book in its twelfth edition? Public opinion has endorsed this book thoroughly, for,

though since the fourth edition it has grown greatly and the number and nature of its diagrams undergone extensive change, such is its popularity that the publishers are able to sell it at the original price, and that price a dollar or more less than the price of competing text-books! The book, remains as a well-known professor of physiology once said to the reviewer, in spite of many obvious and glaring faults, the best text-book of physiology for medical students. Its faults are dogmatism, lack of power of statement of argument, and general flabbiness. Usually the facts are there, but incoördinate and muddled. Many of the diagrams should be scrapped and the portions on the central nervous system rewritten. None the less, until the one-man text-book disappears before the "commission" type of text-book in physiology, Halliburton will hold its present position of supremacy.

Books Received

The following books have been received and the courtesy of the publishers in sending them is duly acknowledged. Reviews will be made from time to time of books selected from those which have been received.

RHIZOPOD PROTOZOA: THE CAUSE OF CANCER AND OTHER DISEASES being Part IV of "PROTOZOA AND DISEASE." By J. JACKSON CLARKE, M.B. (Lond.), F.R.C.S., senior surgeon to the Hampstead and North-West Hospital; surgeon to the Royal National Orthopædic Hospital. London: Baillière, Tindall & Cox, 8 Henrietta Street, Covent Garden. 1915. Price, 7s. 6d. net.

S. WEIR MITCHELL, M.D., LL.D., F.R.S., 1829-1914, MEMORIAL ADDRESSES AND RESOLUTIONS. Philadelphia, 1914.

DISEASES OF THE SKIN. By HENRY H. HAZEN, A.B., M.D., professor of dermatology in the medical department of Georgetown University. Two hundred and thirty illustrations, including four coloured plates. St. Louis, C. V. Mosby Company, 1915.

LABORATORY METHODS; WITH SPECIAL REFERENCE TO THE NEEDS OF THE GENERAL PRACTITIONER. By B. G. R. WILLIAMS, M.D., member of Illinois State Medical Society, etc.; and E. G. R. WILLIAMS, M.D., formerly pathologist of Northern Michigan Hospital for the insane, Traverse City, Mich.; with an introduction by VICTOR C. VAUGHAN, M.D., LL.D., professor of hygiene and physiological chemistry and dean of the department of medicine and surgery, University of Michigan, Ann Arbor, Mich. Third edition. Illustrated with 43 engravings. St. Louis, C. V. Mosby Company, 1915.

TRACHOMA; ITS PREVALENCE, ITS EFFECTS UPON VISION AND THE METHODS OF CONTROL AND ERADICATION. By GORDON L. BERRY, Field Secretary National Committee for the Prevention of Blindness. December, 1915. 130 East 22nd Street, New York.

THE PRACTICAL MEDICINE SERIES; COMPRISING TEN VOLUMES ON THE YEAR'S PROGRESS IN MEDICINE AND SURGERY. Under the general editorial charge of CHARLES L. MIX, A.M., M.D., professor of physical diagnosis in the Northwestern University Medical School. Vol. IX, SKIN AND VENEREAL DISEASES. Edited by OLIVER S. ORMSBY, M.D., professor and head of the department of skin and venereal diseases, Rush Medical College; with the collaboration of JAMES HERBERT MITCHELL, M.D., research fellow in pathology, Rush Medical College. MISCELLANEOUS TOPICS, edited by HAROLD N. MOYER, M.D. Vol. X, NERVOUS AND MENTAL DISEASES, edited by HUGH T. PATRICK, M.D., professor of neurology in the Chicago Polyclinic; and PETER BASSOE, M.D., assistant professor of nervous and mental diseases, Rush Medical College. Series, 1915. Chicago, The Year Book Publishers, 327 S. La Salle Street.

THE PRIMARY LUNG FOCUS OF TUBERCULOSIS IN CHILDREN, by Dr. ANTON GHON, o.ö. professor of pathological anatomy at the German University in Prague. English edition, authorized translation by D. BARTY KIND, M.A., M.D. (Edin.), M.R.C.P. (Lond. and Edin.), assistant physician to the Royal Hospital for Diseases of the Chest, London. With 72 text illustrations, one black and one coloured plate. London, J. and A. Churchill, 7 Great Marlborough Street, 1916. Price, 10s 6d net.

Obituary

THE following appreciation of the late Lieutenant-Colonel Henry Brydges Yates, C.A.M.C., has been received from Colonel H. S. Birkett, Officer Commanding No. 3 General Hospital.

"It is with the profoundest regret that we record the death of Lieutenant-Colonel H. B. Yates which took place on January 22nd, at the Granville Special Canadian Hospital, Ramsgate, England, Colonel Yates was taken ill on November 13th, last, with a severe cold due to the very strenuous climatic conditions which were prevalent in the district in which No. 3 Canadian General Hospital (McGill) was then situated. It was found necessary to evacuate him sick to England on the 22nd of the same month, but unfortunately he made but little progress, although hopes were entertained that he might ultimately recover. The sad news of his death was communicated to the Officer Commanding the unit by a cable received from General Headquarters, January 22nd. Lieutenant-Colonel Yates' military career began in 1894 when he joined the Victoria Rifles as a surgeon lieutenant, subsequently receiving his majority in 1905. He was raised to the rank of lieutenant-colonel in December, 1914, and at the time of his death was still the medical officer of that regiment. In October, 1914, he was given the position of assistant director of medical services to the Fourth Division, which office he held until April 20th, when he severed his connexion with the District and joined No. 3 Canadian General Hospital (McGill). During his time as the administrator of Medical Services of the Fourth Division he discharged the many and varied duties connected with the raising and equipping of many of the regiments from here and two of the general hospitals to the entire satisfaction of the Officer Commanding this area. His association with the McGill Hospital were of the most pleasant nature, and the keen interest which he took in every member of the unit, officer, nursing sister, or private, was marked by a spirit of good fellowship which characterized his actions in civil life. The writer has known Colonel Yates ever since he was a student at McGill, and his association with him has always been of the most pleasant kind, He was amiable, conscientious in the discharge of his military duties, and in every way a true soldier. Words cannot

express sufficiently the writer's appreciation of the value of his services nor can he speak too highly of his unswerving loyalty to him as Commanding Officer and to the interest of the unit itself. He was very popular with all ranks and took a keen interest in the welfare of the men. His loss is irreparable."

Henry Brydges Yates was born at Montreal in 1865 of English parentage. He was educated in England and after passing through Charterhouse, entered Jesus College, Cambridge, where he obtained the degree of Bachelor of Arts in 1888. Returning to Montreal, he entered the medical faculty of McGill University and, in 1893, received his degree as doctor of medicine and master of surgery. Dr. Yates then went into practice in Montreal, and became lecturer in bacteriology at McGill University and assistant in the same subject at the Royal Victoria Hospital. For some years Lieutenant-Colonel Yates was the Norwegian Consul-General at Montreal and in 1908 received from the King of Norway, the Knighthood of St. Olaf, first class. In addition to his professional and military duties, Lieutenant-Colonel Yates devoted a great deal of attention to the work of the Red Cross and the St. John Ambulance Association and, in recognition of his service, in 1910, was created an Esquire of the Order of St. John, of Jerusalem; in 1914, he was elected president of the Quebec Branch of the Canadian Red Cross Society.

DR. HENRY M. JEWETT, of Providence, Rhode Island, died January 18th. Dr. Jewett was born at Prince William, New Brunswick. He had been in practice at Providence for twenty-five years.

DR. CHARLES NOEL BARRY, of Montreal, died from pneumonia on January 12th. Dr. Barry was fifty-eight years of age and a graduate of Laval University. He practised for three years at Ste. Anne de la Pérade. He leaves a widow and eight children.

DR. JAMES FRANCIS KEARNS died at La Junta, Colorado, December 24th, 1915, of lobar pneumonia. Dr. Kearns was born at Osgoode, Ontario, on July 1st, 1863, and graduated from McGill University in 1894.

ERRATUM

AN unfortunate error, and one which we exceedingly regret, occurred in the last number of the JOURNAL in the announcement of the death of Dr. August Schmidt, of Montreal. The notice should have read "Dr. J. Schmitt," of 289 St. Denis St., Montreal.

News

ONTARIO

It is announced that the board of governors of the Toronto General Hospital have decided to establish two free clinics, one for the treatment of contact cases of tuberculosis, the other for cases of venereal disease. It is possible that a clinic for the treatment of cases of lead poisoning and allied affections may be opened in the near future. It appears that a number of cases of lead poisoning have occurred, most of them amongst the employees in munition factories.

It was decided at the January meeting of the board of governors of the Brantford General Hospital that a pathological department should be established at the hospital. The department will probably be under the direction of Dr. R. Digby.

THE by-law in favour of the Berlin and Waterloo Hospital was defeated by a majority of twenty-seven votes. The Stratford Hospital by-law for \$7,000 has also been defeated.

DR. A. B. RUTHERFORD has been appointed acting medical officer at Owen Sound during the absence of Captain Murray, who is on active service.

THE number of births, marriages and deaths in Toronto last year was appreciably less than in 1914, due doubtless to the war and the decrease in the number of immigrants to this country. The figures are: In 1915, births, 13,265; marriages, 5,630; deaths, 6,186. In 1914, births, 14,500; marriages, 6,007; deaths, 6,397. The deaths from contagious diseases during 1915 were as follows: smallpox, 2; scarlet fever, 14; diphtheria, 60; measles, 84; whooping cough, 38; typhoid, 7; tuberculosis, 320; infantile paralysis, 0; spinal meningitis, 30. In 1914 the figures were: smallpox, 1; scarlet fever, 28; diphtheria, 43; measles 12; whooping cough, 24; typhoid, 36; tuberculosis, 328; infantile paralysis, 0; spinal meningitis, 8.

ALL persons employed in hotels, restaurants, and refreshment rooms in Toronto are now required to be medically examined twice a year.

QUEBEC

DR. JOHN L. TODD, associate professor of parasitology at McGill University, Montreal, has been elected a Fellow of the Royal Colonial Institute. Major Todd is now in France with the McGill Military Hospital.

A DELEGATION, composed of Drs. Noel, Camirand, and Ethier, of Sherbrooke, recently waited upon Sir Lomer Gouin, with the petition that the medical bureau at Sherbrooke be empowered to establish a dissecting laboratory in that city. The Premier promised that the matter should receive consideration.

ALBERTA

THE annual report of the Medicine Hat General Hospital shows that during the past year 1,458 patients received treatment in that institution. The total number of hospital days was 26,238; 182 births and 40 deaths occurred. These figures are somewhat less than those for the previous year. The average daily cost of maintenance for each patient was \$1.21 as compared with \$1.41 in 1914.

TONSILITIS, influenza, and la grippe are reported to be prevalent throughout the province. It was estimated that up to January 14th, in Calgary alone 10,000 cases had occurred.

BRITISH COLUMBIA

THE members of the Civil Service at Victoria have undertaken to furnish a ward, which shall be named the Sir Richard McBride Ward, in the Royal Jubilee Hospital, as a tribute of respect and esteem to Sir Richard McBride on the occasion of his departure to take up his new duties in England as Agent-General of British Columbia.

DR. FORT, of Walhachin, has been appointed medical superintendent of the Mission Hospital at Lytton.

ARMY MEDICAL SERVICES

THE following members of the Canadian Army Medical Services have been decorated by His Majesty the King: Created Companion of the Order of St. Michael and St. George, Colonel Murray MacLaren, of St. John, New Brunswick; Lieutenant-Colonel George Gallie Nasmith, of Toronto; Lieutenant-Colonel Arthur Edward Ross, of Kingston. Awarded Royal Red Cross, Matrons McLatchey and Ridley, and Miss Tremaine. Major F. C. McTavish, of Vancouver, has been appointed an Esquire of the Order of the Hospital of St. John of Jerusalem in England.

THE following members of the Canadian Army Medical Corps have been appointed temporary lieutenants in the Royal Army Medical Corps: Lieutenants H. E. Brown, F. L. Hill, W. A. R. Mitchell, J. H. Egbert, T. J. Drake, and M. A. Kenny. The following have been given the rank of captain in the Canadian Army Medical Corps: Lieutenants J. R. Matheson, D. Clark, J. Wickware, M. Griffiths, L. Jones, and G. Bouthelier.

DR. SCOTT HUNTINGDON, of Havana, Cuba, has been given a commission in the Canadian Army Medical Corps.

DR. R. H. THOMAS, C.A.M.C., of Toronto, has left for overseas service. Dr. George T. McKeough, of Chatham, Ontario, has been gazetted major in the Canadian Medical Army Corps and expects to leave shortly for England.

LIEUTENANT-COLONEL T. P. Bradley, of Section C, No. 2 Field Ambulance, has been appointed officer in command of the 149th Battalion in succession to the late Lieutenant-Colonel R. G. C. Kelly. Dr. J. C. Eager, of Hamilton, has joined the staff of No. 2 Field Ambulance.

THE following is the personnel of the medical board appointed to examine army pensioners in the fourth division: Lieutenant-Colonel J. A. Hutchison, of Montreal; Major G. F. Shaw, of St. Andrews, Quebec; and Lieutenant E. M. von Eberts, of Montreal.

DR. GEORGE A. MOFFETT, of North Dakota, formerly of Owen Sound, Ontario, has joined the staff of No. 1 Field Ambulance, C.E.F.

CAPTAIN C. K. RUSSEL, C.A.M.C., of Montreal, has been transferred from the staff of No. 3 General Hospital (McGill) to the Granville Canadian Special Hospital at Ramsgate, England.

CAPTAIN JAMES ROBERTS, C.A.M.C., of Hamilton, is home on sick leave, after an attack of typhoid fever. Captain Roberts was stationed at Lemnos when he was taken ill.

THE following doctors have joined the Royal Army Medical Corps: Dr. D. M. Baillie, of Duncan, British Columbia; Dr. George Hanley, of Kingston, Ontario; Dr. Morton, of Middleton, Nova Scotia; Dr. F. L. Hill, of Advocate, Nova Scotia; Dr. E. A. Blakely, of Kettle Falls, Washington, U.S.A.; Dr. P. W. Tuller, of Lethbridge, Alberta; Dr. Tryer, of Ottawa.

THE following medical officers of battalions have been appointed: Captain L. F. Houghton, of Victoria, of the 88th Battalion; Captain Nicholls, R.A.M.C., of Halifax, of the 85th Battalion; Captain Almon, of Halifax, of the 64th Battalion; Captain H. F. MacKendrick, R.A.M.C., of the 111th South Waterloo Overseas Battalion; Captain W. H. Cronyn, A.M.C., of the 29th Depot Battery, C.F.A.; Captain R. E. Weston, of Tillsonburg, Ontario, of the 168th Battalion; Captain A. L. McQuarrie, of New Westminster, British Columbia, of the 121st Western Irish Battalion; Captain J. D. MacDonald, of Huntsville, Ontario, of the 122nd Battalion; Lieutenant J. A. Anderson, of Smith's Falls, of the 130th Battalion. Lieutenant O. T. Grant, of Winnipeg, of the 108th Battalion. Captain J. Graham, of Mono Road, Ont., of the 74th Battalion; Major G. H. Wilson, of London, Ontario, of the 75th Battalion; Captain O. G. C. Withrow, of Toronto, of the 81st Battalion; Captain W. McKenzie, of the Hamilton Hospital for the Insane, of the 83rd Battalion; Captain R. A. Ireland, of the Toronto General Hospital, of the 76th Battalion; Captain A. J. McGarity, of Hamilton, of the 84th Battalion; Captain J. R. Parry, of the 86th Battalion; Captain J. Jordan, of Meaford, of the 95th Battalion; Captain E. P. Lewis, of the Toronto General Hospital, of the 123rd Battalion; Captain G. A. Macpherson, of Toronto, of the 124th Battalion; Captain G. W. Loughheed, of the Toronto General Hospital, of the 134th Battalion

FROM a letter written at the end of November, it appears that No. 4 General Hospital (Toronto University) reached Salonica on

the 10th of that month, and is under canvas on the main Monastir road about five miles from Salonica. The average number of patients varies from 450 to 650, with daily admissions of 40 or 50 cases. From 30 to 80 patients are discharged each day, some of which return to duty while others are sent to the hospital ships. No confirmation has been received of the rumour that the hospital had been sent to Macedonia.

CAPTAIN DAVID E. ROBERTSON, medical officer of the 1st Battalion, has been transferred to No. 1 Field Ambulance, and Captain Valiquette has been appointed to succeed Captain Robertson as medical officer of the 1st Battalion. Captain A. K. Haywood, medical officer of the 3rd Battalion, has been transferred to the Royal Canadian Dragoons.

MAJOR A. CAMPBELL P. HOWARD, who has been serving with No. 3 General Hospital (McGill) has returned to Canada. Dr. C. J. Edgar, R.A.M.C., of North Hatley, Quebec, has also returned. Dr. Edgar, while in charge of a hospital ship at the Dardanelles, contracted blood poisoning and was invalided to England.

It is announced that Major A. C. Geddes, of McGill University, Montreal, has been gazetted deputy assistant adjutant-general. For some time after the outbreak of the war, Major Geddes was engaged in the work of training in England and, later, became attached to the staff of Field Marshall Lord French.

THE following is the list of officers of No. 6 General Hospital (Laval), now in process of organization at Montreal, under the command of Lieutenant-Colonel G. E. Beauchamp. Lieutenant-Colonels Z. Rheume and J. P. Décarie: Majors J. O. D. Lacroix, H. M. DuHamel, Georges Bourgeois, and G. Archambault; Captains J. A. Lussier, J. U. Gariépy, L. D. Collin, J. A. Lorrain, L. deG. Joubert, E. G. Dagenais, G. Blagdon, A. N. Rivet, J. E. De Hatire, R. Tessier, Frs. L. Demers, E. Mariette, J. J. Trudel, P. P. Gauthier, A. Larose, G. Lefebvre, J. A. Ladouceur, and H. C. Clermont; Honorary lieutenants E. R. Lamontagne and P. E. Beauchamp, quartermasters; Lieutenant J. E. Coutue, dispenser.

AFTER enduring severe hardships in Serbia, Dr. Fernand Perras, of Montreal, recently returned to England where he has

joined the R.A.M.C. About a year ago, Dr. Perras offered his services to the Serbian Government and in April was appointed medical officer of the small town of Sokobania and district. Upon the declaration of war with Bulgaria, a base hospital was established at Sokobania. Dr. Perras remained in charge of this hospital until the Bulgarians were almost at the town and the numbers of refugees and wounded soldiers had become so great that it was impossible for him to attend to them. He then left Sokobania and at length, after a hazardous journey, succeeded in reaching Salonica.

DURING the absence of Lieutenant-Colonel Hanford McKee, who was invalided to England some time ago, Major Williams, of Sherbrooke, Quebec, is in command of No. 1 Stationary Hospital.

CASUALTIES

Died

LIEUTENANT-COLONEL H. B. YATES, of Montreal. No. 3 General Hospital (McGill).

Dangerously Ill

CAPTAIN FRANK V. WOODBURY, of Halifax (No. 7 Stationary Hospital). Suffering from meningitis.

Seriously Injured

CAPTAIN DEYELL, of Millbrook, Ontario. Captain Deyell was thrown from his horse in France.

Wounded

LIEUTENANT L. A. C. PANTON, R.A.M.C. (of Mediterranean Expeditionary Force).

CORRESPONDENCE FROM THE SEAT OF WAR

CAPTAIN S. GRAHAM ROSS, 6th F.A., C.E.F., writes in a letter dated, Belgium, January 3rd, 1916: "Our unit is doing the ordinary field ambulance work, that is, the collecting of the sick and wounded from the different units and either treating them ourselves or sending them on to a Casualty Clearing Station or to a Division Rest Station. This last is an innovation of the present war. In each division

of troops one of the field ambulances establishes a Rest Station—really a Convalescent Home where cases who will be fit for duty in a week or so are sent from the field ambulances. In this way the casualty clearing stations and general hospitals are kept from overcrowding by men with minor ailments. It also saves many men from losing their place in the unit to which they belong, because having been once sent down to a general hospital their names are struck off the roll of the unit and their places are taken by reinforcements. They then have to await their turn to be sent back to the front, and in many cases never return to their original unit. We have been running the Division at Rest Station in addition to our regular field ambulance work, and the Hospice, or Orphanage, part of which we occupy as a billet, is an admirable location for such a place. There is a large hall in the building which has been fitted up as a ward. It will hold one hundred and twenty-five men comfortably. In addition we have smaller wards for the overflow. The different battalions often give band concerts for the patients in the Rest Station in the evening, and other entertainments are also given."

THE following is extracted from an address by Lieutenant-Colonel W. T. Connell of Queen's University, who is on leave of absence: "No. 5, Stationary Hospital (Queen's) was brought from England to Egypt in a hospital ship the *Austurius*, and on this we had a splendid opportunity to study the excellent arrangements that had been made. Patients that arrived from the Dardanelles stated that their trip had been most comfortable.

"In France, the wounded are moved from the base as soon as possible. They are only kept long enough to be put into shape for the trip which takes sometimes a week, sometimes two, but not more than three weeks. The hospital trains are well fitted up and are complete even to kitchens where hot food of all kinds can be made and served. The base hospitals in France are usually about thirty to forty miles back from the firing line. In Gallipoli, the conditions are altogether different. The peninsula is only about fifteen miles across and both sides are constantly subjected to heavy shell fire. The nearest hospital station is on the Island of Lemnos some thirty or forty miles away. This is used more as a clearing station and the wounded are moved as rapidly as possible to Alexandria, Cairo or Malta, where there is a hospital. Alexandria is about six hundred and fifty miles away while Malta is eight hundred miles away, a three day's trip, from the Dardanelles. The patients

are moved to these places in hospital ships which are extremely well provided. The interiors have been removed and made into wards. The beds are set up on a spring arrangement which tends to keep them flat and the danger of seasicknesses is in this way pretty well avoided.

"Our first wounded came when about forty men arrived from the Dardanelles on August 27th. These had been wounded some days before. It takes about three days to come by ship from the Dardanelles. They had come by Lemnos to Cairo, one hundred and thirty-five miles away. These like the great majority of cases were wounded about the legs and arms with an occasional head or chest wound. A wound from a bullet farther than fifty yards away makes a clean wound. Shrapnel and shell wounds, however, are slower to heal, as the wound is jagged and the tissues and skin lacerated. A peculiar thing about the cases we received is the entire lack of bayonet wounds. Other doctors have told me the same thing. The British seldom receive bayonet wounds as they are the better fighters and the other fellow gets the wounds.

"Within a few days after our first batch, we were filled to capacity—four hundred beds. Later we were asked to take more, and we increased to five hundred beds, which was all we could accommodate in the barracks. Since then the hospital has been asked to take another one hundred beds and with the same staff I can imagine how busy they are. At first we received a large percentage of wounded but later we had more cases of illness, principally dysentery."

ST. THOMAS MEDICAL ASSOCIATION

THE annual meeting of the St. Thomas Medical Association was held on January 7th, Dr. D. L. Ewin in the chair. The election of officers for the year 1916 resulted as follows: President, Dr. Alexander Turner; vice-president, Dr. W. F. Cornett; secretary, Dr. James A. Campbell; treasurer, Dr. Perry O. King; hospital representative, Dr. A. F. Tufford.

ONTARIO MEDICAL COMMISSION

STATEMENT BY THE AUTHORITIES OF THE UNIVERSITY
OF TORONTO

1. Upon the general question of the educational preparation of those who intend to seek a license or right to practise medicine or other means of healing, a statement of the views of the University has already been presented by the President to the Commissioner. A copy is for convenience appended hereto. The position and claims of the University in relation to its facilities for teaching medicine and to degrees in medicine, and its position with reference to the jurisdiction and powers now vested in the Ontario Medical Council, are now presented.

2. The Ontario Medical Act, being Chapter 161 of the Revised Statutes of Ontario, 1914, now governs the College of Physicians and Surgeons of Ontario and the Medical Council. The Act incorporates the medical profession of Ontario under the name of "The College of Physicians and Surgeons of Ontario", and creates a governing body therefore called "the Council", consisting of representatives chosen by certain bodies designated in the Act.

3. Authority is given to the Council to appoint examiners for the admission of students to the matriculation or preliminary examination, and to make by-laws and regulations for determining the admission and enrolment of students; and power is given to the Council "to fix and determine from time to time a curriculum of studies to be pursued by the students, and such curriculum of studies *shall be observed and taught by all bodies referred to in Section 4 of this Act.*" This includes the University of Toronto.

4. The Council is required to appoint yearly a "Board of Examiners" to examine candidates for registration "in accordance with the by-laws, rules and regulations of the 'Council'"; and no persons but students complying with the regulations of the Council and the provisions of the Statute (and certain others specially provided for, who need not be referred to here) are entitled to be registered and to be licensed to practise medicine in Ontario. Penalties are imposed for practising without such license. Special provisions are made respecting the study of homeopathy, which need not be detailed here.

Contributed by the authorities of the University of Toronto at the request of the Editor.

5. The College of Physicians and Surgeons of Ontario is not an institution for the teaching of medicine, but in its official announcement it states that it is "empowered and directed to enact by-laws for the regulation of all matters connected with medical education, for the admission and enrolment of students of medicine, for determining from time to time the curriculum of the studies to be pursued by them, and to appoint a Board of Examiners before whom all must pass a satisfactory examination before they can be enrolled as members of the college, and thus be legally qualified to practise their profession in the Province of Ontario".

6. By this "announcement" certain regulations are promulgated. These regulations set out the courses of study, the lengths of the courses in various subjects named, and the numbers of lectures or demonstrations required to be attended, and it is stated that every student must attend such courses "in a university, college or school of medicine approved of by the Council". The requirements for examinations are provided for, and the branches embraced in examinations are set out.

7. Although the College of Physicians and Surgeons of Ontario is not a teaching body, yet its Council fixes and determines the curriculum of studies to be pursued by every student who desires to acquire the right to practise medicine in Ontario, and the University of Toronto is required by the Statute to observe and teach that curriculum.

The Medical Faculty of the University is made use of by the regulations of the Medical Council for the teaching of students without any contribution towards its cost, yet its students and graduates, notwithstanding their long course in the university, and notwithstanding the proofs of qualification they may have given by their examinations and by their diplomas, are not recognized as possessing any such qualifications, but they must follow the same course, for the same length of time, and submit to examinations as if they had not had the advantages referred to.

8. The duplication of examinations not only entails a hardship upon the students of the Medical Faculty of the University of Toronto, but it also entails upon them unnecessary expense and labour. No outside body should have the right to fix any part of the curriculum of studies in any faculty of the university.

9. The conditions in the province when the Ontario Medical Council was established, and the reasons for vesting in it the powers it possesses, should not be lost sight of. Although there were Acts prior to 1865, relating to the granting of licenses to practise

"physic, surgery and mid-wifery", yet it was not until 1865 that a general Medical Council was established. The preamble to Chapter 34 of the Statutes of Canada for that year is as follows:

"Whereas it is expedient that persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners, THEREFORE," etc.

When this Act was passed there were in existence Proprietary Schools of Medicine which carried on the whole work of medical education, in which there was a tendency to lower the standards in the hope of gaining students and making profits, and to counter-act this tendency some authority such as a Medical Council was essential in the public interest.

10. The practice of any kind of medicine, surgery, midwifery, or other branch of medicine or the healing art, is in itself a lawful occupation which any one without special permission by legislative or other authority would have a natural right to pursue. In this respect the practice of medicine, etc., does not differ from the practice of law, or other specialty, and so far as the doing of the things themselves is concerned it would not be necessary for the State to interfere, but in the course of time, and because of the increase of population, it was found necessary for the State to interfere—not to prohibit the doing of acts, lawful in themselves—but to regulate the mode of their doing, and the qualifications of those doing them, so as to prevent harm to the public, which would ensue by things requiring knowledge and skill being done by persons without the necessary knowledge and skill, and to prevent frauds and impositions upon a confiding and innocent public, which could readily be practised by unscrupulous persons; hence the establishment of the Medical Council, the Law Society, and other bodies constituted for the protection of the public.

11. The true reason for the creation of these bodies is frequently lost sight of by the bodies themselves, and, as time goes on, the tendency is for those who have received special powers and privileges solely in the public interest to regard them as having been bestowed for their own interests, and they are inclined to act as if they had certain vested rights which should not be interfered with, though such interference might be called for in the public interests.

12. The conditions in the province with respect to medical education which called for the creation of the Medical Council, and the vesting in it of powers to determine the qualifications of those seeking to practise medicine, have radically changed. Now, there is the great Medical Faculty of the University of Toronto,

part of a State institution having only the interests of education at heart, and not influenced by any considerations of private gain, and fully equipped to impart medical education and determine upon the qualifications of candidates for its degrees.

13. The Board of Governors is of opinion that the position in which our great provincial university is placed by the existing legislation upon the subject of medical education is harmful and humiliating and against public interests, and the Board earnestly contends that the degree in medicine granted by the university should entitle the holder to registration and to license to practise, without further study or examination, and in support of this contention the Board must refer to the exceptional position in the province held by this university. In doing so the Board wishes it to be understood that no criticism of any other university is made or intended.

14. Appended hereto is a memorandum showing the equipment of the university for the teaching of medicine, and showing the hospital facilities for clinical instruction and surgery.

15. The University of Toronto has under provincial statutory authority made expenditures in connexion with the Toronto General Hospital, exceeding \$300,000.00, and has in addition issued its debentures for the benefit of the hospital to the amount of \$300,000.00, and in debentures and cash \$181,000.00 in addition for erection and equipment of the pathological building, in which most of the pathological work of the hospital is done. The agreement with the hospital entitles the university to extensive facilities for clinical and surgical instruction. Arrangements also exist with St. Michael's Hospital, The Hospital for Sick Children and The Western Hospital, and there can be no doubt that these facilities possessed by this university are unsurpassed in Canada.

15. The expenditure made by the University of Toronto in connexion with the teaching of medicine and kindred subjects necessary for qualification of medical practitioners is very large and far exceeds the amount of all fees derived from students in medicine. Appended hereto is a memorandum as to this expenditure.

17. In Great Britain, a degree in medicine of any one of fifteen universities there is recognized as entitling the holder to registration and to a license to practise. The plan in force in Great Britain respecting the admission to practice and the rights conferred by the university degrees is the following:

The General Medical Council of Great Britain consists of representatives from twenty-four teaching and formerly licensing bodies, of which fifteen are universities, also three representatives elected by the medical practitioners registered in England, one representative elected by the medical practitioners registered in Scotland, and one representative elected by the medical practitioners registered in Ireland; in all twenty-nine.

The candidate for a professional course in medicine passes a matriculation examination, the standard of which is fixed by this General Medical Council, and must register with the General Council within fifteen days of commencing study and spend five sessions of eight months each at an institution where the standard is assuredly maintained under the inspection of the General Medical Council.

The General Medical Council fixes the standard of proficiency, and it is their duty to secure the maintenance of such standard in all teaching institutions mentioned. For this purpose inspectors are appointed in such number as the Council determines, and these shall attend, as the General Council may direct, at all or any of the qualifying examinations held by the bodies aforesaid. Thus the medical degree granted by one of the aforesaid universities whose standard has been approved by the inspectors of the General Medical Council qualifies the student for a license to practise.

18. The following resolution was passed by the Council of the Faculty of Medicine of the University of Toronto, viz.:

"*THAT* in the opinion of the Council of the Faculty of Medicine of the University of Toronto the degree in medicine of the University of Toronto should carry with it, without further examination or tests, the license to practise in the Province of Ontario."

And at a meeting of the Senate, held on June 8th, 1910, the following resolution relating thereto was passed, viz.:

"*THAT* the Senate do approve of the resolution of the Faculty of Medicine and direct the Registrar to forward it with this resolution to the Board of Governors, coupled with a request to take such action as will best secure the object aimed at."

19. It is not out of place here to repeat what is said in the report on "Medical Education in the United States and Canada" issued by "The Carnegie Foundation for the Advancement of Teaching,"

"Of schools of this type (i.e. those that by careful selection of students and extraordinary pains in teaching make the very best of the situation) two Canadian institutions, McGill and Toronto, deserve special attention. At Toronto the teaching is wholly in charge of full time instructors, for whose original work splendid provision has been made in laboratories of ideal construction and admirable equipment. In both institutions the shortcomings of the student body, instead of excusing perfunctory work, have rather been regarded as an obstacle to be overcome, a condition to be met." (Pp. 78-79.)

20. Referring to the expenditure made by the University of Toronto in connexion with the teaching of medicine and kindred subjects, it is important to refer to the expenditure of the Ontario Medical Council in connexion with examinations, and to some of the sources of its income. Appended hereto is a memorandum, based on official reports, which shows this income and expenditure for certain years.

In so far as these fees collected from students relate to examinations of students holding degrees in medicine from the University of Toronto, the Board deems them an unnecessary burden upon the students.

THE PRESIDENT'S FORMER STATEMENT TO THE COMMISSIONER

The University in presenting its views before the Commissioner does so because as an institution supported by the public funds it has a responsibility for protecting the people of the province as far as in it lies against such methods as would interfere with the people securing the best treatment that the advance of modern scientific education can provide for them. The university is maintained at large expense by the province, for medical education to-day requires great outlay, both for the preliminary scientific education in the laboratories and for the clinical education in the hospitals, as well as for the salaries of experts in these departments, even though the clinical work is mainly done by leading practitioners who secure only honoraria for their services.

The education of the medical student to-day is thoroughly scientific. The empirical stage of medicine has passed away, and the results of the new methods are seen in the decreased death rate

and in increased average longevity. Modern scientific medicine is built on fundamental science. There is no one who has contributed more to the advance of modern medicine than Pasteur, and Pasteur was a chemist. The purpose of medical education is to create in the student an attitude of mind based on thorough scientific method, so that as a practitioner he will not depend on routine methods or traditional treatment, but will advance with his rapidly advancing profession. The success of the practitioner therefore depends upon (a) accurate diagnosis, (b) scientific treatment. For this diagnosis he must have accurate information of pathology, the diseased condition of the body, of physiology, its normal condition, and anatomy. These sciences depend in their turn upon physics, chemistry and biology.

Again for treatment he must thoroughly understand anatomy, physiology, pathology, bacteriology and pharmacology, and for most of these sciences chemistry is not only an essential but is becoming more and more important. On these sciences the clinical structure is built in which to-day the scientific laboratory plays a great part. All the hospitals of the best grade have scientific laboratories connected with them for diagnosis and treatment of clinical work. In clinical medicine where the student is trained in scientific diagnosis and treatment he learns also the principles of preventive medicine, and is taught to recognize infectious diseases. Without such a competent knowledge a practitioner of medicine might bring upon a community an epidemic.

It is claimed, however, by those who practise these other systems of healing that their methods produce good results and effect cures that are not attained by the practitioners of medicine. In reply, I should say that valuable though some of these methods may be they are dangerous unless practised by men who have a competent knowledge of the whole body. These other arts of healing can only be safely practised by men who have a thorough scientific education based upon a knowledge of the structure of the whole body, of physiology and pathology, and on the clinical application of this knowledge in actual diagnosis of cases in the hospital and of the method of treatment based also on such knowledge.

Such an education, however, cannot to-day be thoroughly given in a shorter period than the five years demanded by any Faculty of Medicine in a first-class university of to-day. One who has taken such a course will, we believe, not endanger the health of his patient by a rough and ready application of treatment which

may happen to prove successful in some cases, but which may be injurious in others.

MEMORANDUM REFERRED TO IN CLAUSE 14

The university possesses the following thoroughly equipped laboratories for the scientific subjects preliminary to the study of medicine: physics, chemistry, biology, anatomy, physiology, biochemistry, pathology, pathological chemistry, pharmacology, hygiene. These laboratories are not only equipped according to the best modern standards but they are directed and maintained by a staff of distinguished scientists who in every case but one devote their full time to the work of the laboratory.

For the professional work on its clinical side the university has the control of the Toronto General Hospital with six hundred public ward beds, a hospital recently erected and recognized as one of the best on the continent. In this hospital rooms have been set aside for the clinical instruction of the students, and the pathological laboratories are in close proximity. The department of obstetrics and gynæcology is equipped with a laboratory of its own. In this hospital the clinical departments of medicine, surgery, obstetrics, gynæcology, ophthalmology, laryngology and otology are conducted with the best of modern equipment. There is also a large out-patient department which is conducted on scientific lines for the purpose of medical research bearing upon professional instruction.

In addition, the university has the privilege of St. Michael's Hospital with 350 beds, the Sick Children's Hospital with 160 beds, and the Western Hospital with 253 beds, in all of which the instruction is conducted by the staff appointed by the university for this purpose.

Further, through private benefaction, the Medical Research Fund amounting to \$15,000 a year has been established, and Fellows appointed under this fund conduct research work in clinical medicine and pathology in the new pathological laboratories and the Toronto General Hospital. Research work in surgery is also conducted under the department of surgery.

MEMORANDUM OF EXPENDITURE BY THE UNIVERSITY OF TORONTO
IN CONNEXION WITH THE TEACHING OF MEDICINE, ETC., FOR
THE YEARS 1913-14 AND 1914-15.

	1913-14	1914-15
1. Total direct cost of the Faculty of Medicine for salaries, maintenance, and share of operating expenses of Central Power Plant for the year.....	\$87,504 19	\$86,984 23
2. Cost of the departments of chemistry, physics, biology, physiology and biochemistry, which, although listed in the Faculty of Arts, give instruction also to students in the Faculty of Medicine		
	1913-14	1914-15
	\$98,445 72	\$96,219 12
On the basis of one-third of those expenditures being chargeable to medicine, there should be added, say...	33,000 00	32,000 00
This would make the total expenditure.....	\$120,504 19	\$118,984 23
3. Fees derived from students in medicine:		
	1913-14	1914-15
	\$78,270 50	\$79,821 67
Deduct proportion for matriculation examination, degrees, library, gymnasium, etc...	\$9,887 00	\$10,137 00
	\$68,383 50	\$69,684 67
Approximate cost to university over and above fees.....	\$52,120 69	\$49,299 56
4. Number of students registered in the Faculty of Medicine:		
	1913-14.....	623
	1914-15.....	660
5. Number of teaching staff:		
	1913-14.....	136
	1914-15.....	145

MEMORANDUM SHOWING CERTAIN INCOME AND EXPENDITURE OF
THE ONTARIO MEDICAL COUNCIL, TAKEN FROM THE TREASURER'S REPORT PUBLISHED IN THE OFFICIAL ANNOUNCEMENT, 1915.

RECEIPTS

Assessment dues.....	\$5,182 00	
Registration fees.....	3,280 00	
Examination fees:		
Fall of 1914.....	\$2,405 00	
Spring of 1915.....	10,510 00	
	<u>12,915 00</u>	
		<u>\$21,377 00</u>

DISBURSEMENTS

Holding examinations, general expenses.....	\$273 70	
Examiners' fees:		
Spring, 1914.....	\$2,397 05	
Fall, 1914.....	967 75	
	<hr/>	3,364 80
		<hr/>
		\$3,638 50

NOTE.—Included in the Expenditure is the item "Fees refunded to students who did not take examinations, \$200.00."

The assessment dues referred to were paid by the various medical practitioners in the province as members of the College of Physicians and Surgeons, the dues of each member being \$2.00 per year. The registration fees and fees for examinations were collected from the students.

The following fees are collected from students:

- (a) Registration of matriculation..... \$25 00
- (b) Medical Council examination fee, including registration of license..... 75 00

NOTE.—If a student fails in an examination and takes the next fall examination, he is charged \$25.00 additional.

NOTE.—Prior to the year 1911 three examinations were provided for, viz., primary, intermediate and final, and the fees payable by students were:

Registration of matriculation.....	\$20 00
Primary examination.....	30 00
Intermediate and final examination including registration.....	50 00

But one examination is now required, viz., the final examination, held at the end of the fifth year. The total now, viz., \$100.00, is the same as formerly, but is differently divided.

At a meeting of the Essex Medical Society on January 7th, 1916, it was resolved:

1. The definition of Practice of Medicine as proposed by the Ontario Medical Council be urged upon the Medical Commission.
2. Infractions of the Medical Act should be dealt with in the same manner and by the same authorities as those of other acts.
3. Colleges should not have the power to grant the right to practise but this should be vested in some central authority, preferably the examinations of the Dominion Council amplified and improved.
4. A copy of these resolutions be sent to the Ontario Medical Council, the Academy of Medicine, Toronto, and to THE CANADIAN MEDICAL ASSOCIATION JOURNAL.

Canadian Literature

ORIGINAL CONTRIBUTIONS

The Canada Lancet, December, 1915:

Notes on the examination of recruits for
active service F. Winnett.

Western Canada Medical Journal, November, 1915:

Traumatic aneurism and its surgical cure. W. A. Lincoln.

The Western Medical News, December, 1915:

The cancer problem W. H. B. Aikins.

The diagnosis of appendicitis in early
typhoid fever R. Winslow.

The Canadian Journal of Medicine and Surgery, December, 1915:

Pyelolithotomy in an unusual case of
renal calculi A. C. Hendrick.

Disabilities including injuries caused by
bullets, etc. A. Primrose.

The Canadian Journal of Medicine and Surgery, January, 1916:

The Medical Commission: Irregular
practitioners A. J. Johnson.

The educated physician vs. the ignorant
manipulator G. Howland.

Diagnosis and its importance J. H. Elliott.

Preventive medicine C. J. Hastings.

The Public Health Journal, December, 1915:

Presidential address, delivered before the
Canadian Public Health Association. M. M. Seymour.

Health and charity S. M. Gunn

The land problem in relation to housing P. H. Bryce.

Control of venereal diseases in municipalities	W. A. Evans.
The medical profession of Ontario vs. irregular practitioners	J. W. S. McCullough.
Defective children	M. H. Kerr.
Auxiliary classes in the public schools	M. E. Blackwell.
The standardized death rate of Alberta, 1911	W. E. Home.

Medical Societies

ACADEMY OF MEDICINE, TORONTO

THE stated meeting of the Academy was held in the Mining Building on Tuesday evening, December 7th, at 8.30 o'clock. The vice-president, Dr. H. A. Bruce, was in the chair, and a large number of Fellows were present.

The honorary secretary read a letter from the Toronto and York County Patriotic Fund Association, conveying the following resolution: "At the annual meeting of the Toronto and York County Patriotic Fund Association held in the Council Chambers, City Hall, on November 23rd, a resolution of thanks was passed on the motion of Colonel W. C. Macdonald, expressing the gratitude of this Association to the doctors of Toronto who have so kindly offered their services free in connexion with the dependents of soldiers at the front, and for the many gratuitous visits which they have been called upon to make."

It was moved by Dr. N. A. Powell, seconded by Dr. J. H. Elliott, and unanimously adopted: "That the broad and progressive action of the Honorable the Provincial Secretary in placing, through our provincial board of health, sera for the treatment of diphtheria, typhoid fever and allied diseases at the disposal of the people of Ontario, free of all cost, merits and receives the warm approval of this Academy. Coming at the time when the cost of many drugs has notably increased and when the ability to meet such cost is in many cases lessened by reason of the war, the new regulation is doubly welcome. The Provincial Government is to be congratulated upon having taken this wisely economical step, one that should result in a great saving of life and in a marked lessening of sickness."

SYMPOSIUM ON ANÆSTHETICS.

In the opening paper on "The advantages and risks of combined local and general anæsthesia," the president, Dr. W. H. B. Aikins, pointed out the great danger of the use of cocain.

Dr. D. J. Gibb Wishart indicated the necessity in nasal operations of having the field free from blood, which is accomplished by the use of cocain or novocain combined with adrenalin. Equal parts of 5 per cent. to 10 per cent. cocain combined with 1/10,000 adrenalin on gauze packing used an hour before the operation will give a satisfactory anæsthesia; and ischæmia and shock may be avoided by using morphia hypodermically as advised by Crile. General anæsthesia is rarely required. The speaker had done a large series of resections, tonsilectomies and even had done a radical mastoid under local anæsthesia. Though death had occurred under combined anæsthesia he had never seen it occur when his directions had been followed. Cocain or adrenalin should never be used during the course of a general anæsthesia.

Dr. Wishart continued, "The position of the patient must be noted. Operations upon the nose and throat are greatly facilitated by the use of the upright position. For this, however, two factors are essential: (1) the anæsthetic must be *begun* and carried on with the patient seated in the position desired for operation. (2) The anæsthesia must be light. Finally, I have no fear of using local combined with general anæsthesia, even when adrenalin is required, provided I can trust my anæsthetist. I prefer for this reason, to work always with the same man, whenever possible, and would advise my confrères to adopt this rule. It requires the most highly trained anæsthetist to administer anæsthetics in nose and throat cases, which are the cases, in nearly every instance, where a combination of local and general anæsthesia is required."

Speaking of the Danger Signals in Anæsthesia, Dr. Samuel Johnston said: "In a patient under the influence of an anæsthetic, the more obvious changes are indicated by changes in the respiratory and circulatory systems.

First, under the head of respiration: When a patient under what might be called the normal condition in any of the first three degrees of anæsthesia, has any change in respiration, this should put the anæsthetist on his guard. If the respiration becomes faster and more shallow, or faster and deeper than the usual rate under the degree indicated, it cannot continue long, if the administration is persisted in, without showing evidence of failure. If the respira-

tion becomes stertorous, it is an indication that the patient is not getting enough air. If stridulous breathing occurs, and the anæsthetic is continued, respiration will gradually become slower and more laboured and will eventually cease. If inspiration becomes short, and expiration prolonged, I consider it a very grave sign, and the condition must be dealt with immediately. If the breathing becomes very quiet and shallow, although it may be regular, I take it as a warning that the patient is either too lightly or too deeply under the influence of the drug, the anæsthetist then being under the necessity of differentiating between these two states by other signs.

Sometimes the respiration will change from normal to that resembling Cheyne-Stokes. This is always alarming, and if the anæsthetic is continued breathing ceases. If the inspiration and expiration are both quick and short with a peculiar sighing phonation striking a sort of pathetic note, I have always observed that, if the anæsthetic is continued, respiration ceases. Noisy breathing associated with cyanosis shows that obstruction of the airway, either nasal, laryngeal, or pulmonary, is present, which, however, may be due to nothing more than mucous. Laryngeal spasm is sometimes produced by irritation as well as obstruction. It may be due to too rapid administration, producing an alarming condition, even proving fatal if the anæsthetic is not withdrawn.

Second, under the head of circulation: The two main indicators are the colour and the pulse. If the colour changes from normal to purple, and from that to pallor, the pulse will soon change for the worse. If the pallor only is present, this symptom is even more grave than the one just mentioned. I consider it an indication that the circulation has become suddenly depressed, either from too much of the anæsthetic or from shock of the operation, or both. This condition will sometimes occur when the patient is too lightly under, and the vomiting reflex is beginning to manifest itself. Occasionally the first sign of circulatory depression is indicated by pallor around the mouth extending up and around the *alæ nasi*. The ears or lips becoming pale, particularly the latter, is always a sign that circulation is failing.

With these changes in the colour, there is always a corresponding change in the pulse, which, however, may not be perceptible at the first change of colour. If the pulse becomes quick and small or irregular, it is an indication that the circulation is being seriously affected. Sometimes this pulse will become suddenly full and bounding without any noticeable change in the colour. My ex-

perience is that this is a grave sign. It indicates probably a paralysis of the inhibitory mechanism of the heart, and it acts as if the reins have been thrown away, so to run itself out. However, generally speaking, one cannot dissociate the colour and the pulse, the former is the indicator of the latter.

One cannot consider the question of danger signals in anaesthesia and leave out the pupil reflexes. Oftentimes the first indication that something is wrong, is the dilating of the pupil with no other visible signs of danger. If the pupil dilates and continues to do so, I always take it as a danger signal. It may only mean that it is a reflex from some manipulation of the surgeon, the patient being too lightly under the anaesthetic, but even this may be disastrous if the anaesthetic be continued during such manipulation. On the other hand, if the pupil dilates widely, the colour becomes pale or livid, and the pulse changes for the worse, the patient is in a very serious condition."

Dr. P. E. Doolittle spoke on the "Effects on prognosis of the manner of administration".

Dr. R. J. MacMillan considered the "Preparation of the patient and the after treatment". The preparation of the patient should begin two days before operation, paying attention to his diet. Only light diet should be given the previous day, while plenty of water should be given up to two hours before operation. The best purgative is calomel given two nights before the operation, followed by salts next morning. There should be an enema two hours before operation, but no calomel the night before. When patient cannot be treated for two days before the operation, castor oil may be given the night before. Lavage indicated where stomach has been handled, in gall bladder operations, in all cases where there has been vomiting, and in all cases where stomach is distended by gas. Soda bicarbonate solution seems the best preparation to use for washing stomach. After operation water in small quantities may be given and tea added as soon as free from nausea.

Dr. H. R. Holme said that gas and oxygen analgesia should not be used in alcoholics, nervous women and children. The two extremes to watch for are hilarity on one hand due to too much oxygen and unconsciousness due to too much gas.

Dr. C. H. Hair gave a paper on "Barker's method of spinal anaesthesia". The solution used is: stovain, 5 gms.; glucose, 5 gms.; aqua dist., 100 gms. The 1023 allows it to fall to lowest part of spinal canal. The position of patient and technique of administration were carefully outlined. The duration is forty-five

minutes to sixty minutes. Amongst the after effects are headache, at times vomiting during anæsthetic stage, diplopia which has not been explained. Among operations where it is desirable, is prostatectomy where kidney function is often impaired through age, or where marked relaxation of sphincter muscles is desired. Nearly all short operations in lower abdomen or on the extremities can be performed with decidedly little anæsthetic effect.

Dr. J. F. L. Killoran's paper was on "Ether anæsthesia". The advantages and disadvantages of the open and closed methods were discussed. It was pointed out that the pupil reflexes are not constant with ether anæsthesia. He objected to chloroform as a preliminary anæsthetic as the first stage is the stage of danger in most cases. He outlined his method of preparation of patient for anæsthetic in case of Graves' disease. At the close of the operation a few drops of aromatic spirits of ammonia on the mask will lessen nausea and seems to hasten recovery from the anæsthetic.

Dr. G. H. Carveth recalled the method of administration of ether taught him by the late W. T. Aikins. He gave anæsthetics under his supervision thirty-two years ago, and for a long time his mask was a porridge bowl over the mouth. A towel was placed over it and then pushed down into the bottom of the bowl, and on this the ether was poured. The bowl was then inverted over the patient's face until the ether had all vaporized when the towel was recharged and the bowl replaced. He spoke strongly against the use of a combination of anæsthetics. He had induced ether anæsthesia over forty thousand times without a death, attributing his success to care, to the use of a pure ether and attention to many details which he outlined.

Dr. Hanley discussed methods of resuscitation.

Discussion was opened by Dr. H. C. Scadding and continued by Drs. John Hunter, Paul Scott, N. A. Powell, J. M. Cotton, W. J. Wilson, H. B. Anderson, J. H. Elliott, Langstaff, J. P. Morton, G. Boyd, G. G. Copeland, H. A. Macdonald, and the chairman.

MONTREAL MEDICO-CHIRURGICAL SOCIETY

THE third regular meeting of the society was held Friday evening, November 5th, 1915, the president, Dr. F. A. L. Lockhart, in the chair.

PATHOLOGICAL SPECIMENS: Series by Dr. J. W. Scott.

1. Benign fibroma of stomach in region of cardiac orifice; incidental finding at autopsy, no history of gastric disturbance.

2. Malignant papillary adenoma. Incidental finding at autopsy, no gastric symptoms.

3. Stomach from patient with typical history of carcinoma; growth almost completely filled stomach; gastro-enterostomy; patient died two years later.

4. Adeno-carcinoma of the liver.

5. Infiltrating form of carcinoma confined to pyloric portion of stomach. Incidental finding at autopsy. Patient died of pneumonia.

DISCUSSION: Dr. W. M. Fisk: I would like to ask Dr. Scott the cause of death in the case of gastro-enterostomy.

Dr. F. R. England: I would like to ask if it is uncommon to have metastases appearing in the pylorus and duodenum following malignant disease of the breast. Such a case came under my care recently where a radical operation for the removal of the breast for carcinoma had been performed six years previously.

Dr. J. W. Scott: As to the cause of death in the second case we could only make an inspection of the abdomen, but the patient died with symptoms referable to the thorax, and it was probably a terminal pneumonia. I have never noticed any connexion such as Dr. England suggests between metastases in the stomach or duodenum and malignant disease of the breast.

PAPERS: (1) The recent clinical congress of surgeons at Boston. (a) The surgical aspects, by Dr. C. K. P. Henry.

The congress was held in Boston on October 5th, with headquarters at the Copley-Plaza Hotel, and although the advance notices stated that only one thousand five hundred cards would be issued, between sixteen hundred and two thousand clinical surgeons were in attendance, and as a matter of fact my card was No. 1642. This was extremely unfortunate as the attendance was far in excess of the accommodation afforded and led to disappointment and delay in getting cards for the different clinics which one might wish to attend. In order to get cards for any special clinics during the day it was necessary to be at the hotel at 7.30 a.m., and wait your turn in a long line for an hour.

The clinics for the following day were posted in a room adjoining the general assembly room, and this gave you an idea of what could be seen at the various clinics during that day. In the morning there was a printed programme, and from this you could make a selection of what you desired to attend. The largest clinics were at the Massachusetts General Hospital, the Boston City Hospital, and the Peter Bent Brigham Hospital. On the day that

we arrived there was a provisional programme given out which followed very closely that issued before we went to Boston, giving the different clinics during the week, and also outlining the addresses. This held good for the first day only, however, and one had to watch for the daily programmes in order to know exactly what was going on. In the rooms adjoining the registration rooms there were the usual exhibitions of medical books, *x-ray* apparatus, instruments, etc., but there, unfortunately, was little time to look at them. The most instructive things to me were the sets of Albee's instruments for bone grafting, and two or three other sets for the same work, all attracting constant attention. Albee's set is possibly the most complete and easiest to handle, and will probably be most in use. Altogether eighteen hospitals were listed, one or two dental infirmaries, laboratories, and the medical schools.

One of the most interesting exhibitions I have seen was the *x-ray* exhibit of Dr. George and I think I got more out of this than any other. Dr. Cole, of New York, gave, in Dr. George's absence, a demonstration on duodenal and gastric ulcer, and his demonstration of the pathological points made the reading of these plates extremely interesting. He states that he has given up taking plates at stated intervals after ingestion of the bismuth meal; he takes about forty plates, ten or fifteen in twenty minutes and the rest at a spaced interval. He claims that in that way you can get more information than when taken over twenty-four hour intervals.

At all the hospitals there were large notices directing the men where to go and, at the entrance of each hospital, a uniformed attendant to take up the tickets and guides to direct you to the different clinics you wished to attend. In some hospitals it was impossible to get in without these tickets, while at others they were not so strict. Reception rooms were also provided and adequate coat and hat check rooms. There was also an unlimited supply of coats, etc., for the visitors; for instance, in one clinic I attended one hundred white coats were given out to the visitors.

At the Peter Bent Brigham Hospital those who presented the first fifteen tickets were given checks for the floor of the operating room, the others had to sit in the amphitheatre. In some of the hospitals, on arrival, you were issued with supplementary type-written slips which gave a history of the cases coming before the clinic that day. At the Massachusetts General instead of that there were large diagrams, half the size of the blackboard, which were hung on the wall previous to the operation, giving history,

clinical findings, diagnosis, etc. The clinical work presented was first-rate in quality, the only trouble being one could not take it all in. Every clinic started promptly on the hour, the first patient was brought in at nine o'clock, the main part of the operation was done, the case demonstrated, and the patient hurried off to another room for completion of the operation; in this way four major abdominal operations could be done within the hour. I saw ten cases of varicose veins and varicose ulcers in an hour. Another feature was the ability the men there have of following their cases after operation: out of seven cases of a series six will return to show you the after results. They have a case report system and a social service system which is able to trace and follow these cases, and you can always get them back when you want them. Case reports come in with every patient and in all the hospitals I attended they were typewritten. The end results obtained are always infinitely better explained when the actual patients are demonstrated. X-ray plates are also passed around or placed in such a way that all can see them. Some x-rays of gall stones were exhibited and Dr. Cole explained that cholesterin stones could be demonstrated though they are less dense than the shadow caused by normal bile.

The operating done was on the whole very rapid surgery. Dr. Porter, of the Massachusetts General did a resection of half the stomach for cancer in twenty minutes, when the patient was hurried to one side and a gastroenterostomy done. Considerable work was also done here on prostatectomy; Dr. Balch gives the perineal route the preference with a mortality of 8.1 per cent.

Of the special work that I had not seen before was the operation of splenectomy for pernicious anæmia. In one clinic seven cases were operated on. There was a symposium upon this subject, and an operation arranged for the clinic day. I am not quite sure of the different tests, but the urobilin prior to operation in pernicious anæmia is pretty high, showing a fairly large destruction of blood cells. In seven cases the evidence of blood destruction following splenectomy had fallen considerably or was totally absent. The blood count, and the blood picture had undergone a very material change and some of the cases had been done for over two years.

At the Infants' Hospital, which is a thoroughly equipped small hospital, they showed one clinic of seven cases that had been operated on for congenital pyloric stenosis, with six babies present, all perfectly healthy. Another case of a not complete, but of relative pyloric stenosis was interesting where they had been passing the duodenal catheter from once or twice a day to every second

day until food passed and the stools became normal in appearance. Nearly all cases have a blood transfusion done prior to operation. Drs. Vincent and Kimpton have done most in this connexion. The Kimpton method is simple. He uses the special Kimpton-Brown tubes and in the Boston City Hospital he gave a demonstration on the transfusion of blood in pernicious anaemia. It was Vincent, who advocated the transfusion of blood into the superior longitudinal sinus before these cases of pyloric stenosis are operated on. Where transfusion is not possible saline has been given in this way and blood for the Wassermann test is usually so obtained in the Infants' Hospital.

A large series of interesting stomach cases were demonstrated and operated upon. Dr. Lunn showed duodenal and gastric ulcers with end results of those treated by gastroenterostomy. There was an afternoon session on that one subject alone with the demonstration of cases, x-ray plates, case reports, etc. The beneficial effect on many of these cases is not so much due to the blocking-off of the pylorus as to the fact that the new opening assists the emptying of the stomach, and the regurgitation of the alkaline fluid from the intestines, which lessens the acidity and helps the ulcer to heal. Cardio-spasm cases were shown, operated on by opening the stomach and passing a small thread through the opening of the cardia, then another larger one, then a bougie; a fairly large opening was thus obtained.

Another afternoon of interesting demonstration and discussion was held on the treatment of fractures, by Dr. Scudder. His open work has been done with all the ordinary methods, screw nails, nails, Lane's plates, and transplantation of bone by Albee's methods, bone furels, etc. One thing of special interest was the treatment of elbow joint injuries. Most of these are put up in acute flexion. He claims that it is a mistake to take down these cases under four or five weeks; passive motion early and massage is a mistake. In many of our cases of fractures we put on too much extension. Our end results depend not only on the ligaments of the joints near the fracture but also on the retention of the support of the deep fascia. Where too much extension has been put on, this deep fascia is overstrained and there is often a flail effect at the point of fracture.

The operating rooms showed new fashions. Naturally in this war time the battleship greys, dark green or grey colours predominated. The glare from the white sheets, the walls, floor, etc., tired the eyes and many of the operating theatres are finished

in dull greys which certainly permits one to look much longer and closer without having a tired feeling in the eyes. Another thing I saw a good deal of, but never could convince myself of its advantage, was the injection of novocaine in small percentages into all wounds prior to incision and into the muscles of the abdominal wall while the operator was opening it. It is said to give relaxation of the walls, to lessen the amount of ether required, and to facilitate approximation of the abdominal wall, though I did not see its advantage. I saw one thyroid removed with novocaine, $\frac{1}{4}$ gr. morphia, scopolamine one hour and half an hour before operation. Six novocaine injections were done, and two cases were shown several days after operation who claimed they had no remembrance of what went on in the operating room whatever. One local anæsthesia case was seen by Dr. Porter for the excision of a parotid tumour. The anæsthetic was perfect, the operation neatly done and no injury was done to the facial nerve.

A new operation at the Massachusetts General was done by Dr. B. F. Jones for prolapse of the rectum. He claims that this is due to a sagging of the fascial floor, the deep pelvic transverse layer, and that the ordinary operations are useless to correct this weakening of the pelvic floor. His operation might be called a peritonealorrhaphy. The lowest point is caught by a silk suture, and the rectum pulled up and the peritoneum quilted. At the end of the operation this lowest point of the rectum which was down well on to the perineum below the prostate gland is now a couple of inches above this. He demonstrated several cases in which with the slightest strain there was a prolapse of the rectum for several inches and these cases were shown to us after treatment; there was no prolapse with strain and the anus was quite competent to look after the lower bowel.

At the Peter Bent Brigham Hospital we were given several very interesting demonstrations, and talks by Dr. Harvey Cushing on decompression for a subtentorial tumour. The man on the benches, however, sees nothing of these minute operations. I went to the opening lecture, saw the case and then went somewhere else. He impresses one as a very careful methodical operator. His care of hæmorrhage in his brain cases was what struck me most; he worked for forty minutes to check a slight oozing before opening the dura. He showed several cases of children who had had decompression done for injuries from accidents. He prefers the right side just below the temporal ridge using a vertical incision, splitting the temporal muscle and fascia and removing a large

area of bone. Cases were shown six days after operation where the stitches had been removed, the wound healed, and the child was apparently quite well.

In most of the hospitals the facilities for a large conference were adequate; in some, as for instance the Carney Hospital, there was no large theatre, but even there provision was made by the erection of temporary platforms. At the evening meetings the discussion of papers started promptly at eight o'clock. Dr. Charles Mayo's address was given one evening and was on embryological defects and their importance as regards surgery. The important evenings were those given up to the discussion of carcinoma of the uterus in which the different methods of treatment by cautery and by the knife were taken up and both had their advantages. Dr. Murphy's address on surgery was most interesting, illustrated by lantern, photographs and demonstrations of instruments used. Time will not permit of further report on these evening lectures.

(B) The orthopedic aspects of the Congress, by Dr. J. A. Nutter.

Boston, as is well known, is the finest city in the world in which to study orthopedic surgery. There must be fifty or seventy-five orthopedic men there, and they certainly gave a most wonderful programme which rivalled that of the general surgical section of the Congress. The work was done at the Massachusetts General, the Children's Hospital, the Carney Hospital, and the Good Samaritan Hospital; the Boston City Hospital has no orthopedic specialty recognized as such.

One of the most interesting things was a consideration of the hip affection which causes children to limp, with some pain, and which is not tubercular. It is called Perthes' disease or osteochondritis juvenilis deformans. Pathologically it shows a flat top of the head of the femur as seen from the *x*-ray pictures. This flat-topped head of the femur is a subject that I have not been able to see much of in Montreal, and I made the most of my opportunities down there. Legge, of Boston, has reported fifty-five cases. Here is a typical case: a child, six to ten years of age, limps perceptibly, has a history of trauma, a little pain, uneven limitation of motion in the hip joint and shows that characteristic picture in the *x*-ray plate. In such a case you can safely say that it is not hip disease, it is not tubercular. The whole epiphysis is flattened, dwarfed and broken up into pieces and usually the neck is thicker than normal. There is quite a discussion going on as to the etiology

of this. The men who know the most about it think that it is traumatic in origin and due to an injury which interferes with the blood supply going to the head of the bone, this causes dwarfing of the epiphysis of the head of the femur and also a damming of the blood supply elsewhere so that the neck is thickened. It generally gets well in some months if treated mildly with rest and possibly plaster. It is an important thing to diagnose this condition and not subject the child to a couple of years' treatment for hip disease.

Another point of interest is that in Boston it is getting to be generally held that the operation of bone transplantation for Pott's disease is not an operation for children; the operation does not do so well in children as in adults. The younger the child the less likelihood there is of the graft remaining and proving useful.

Another subject of interest was birth palsy, or Erb's paralysis, where the arm hangs down and the hand is turned inward. We have always been accustomed to treat that by massage and passive motion and in later cases we have sometimes done the operation that Lange devised, an osteotomy of the shaft of the humerus. That, of course, does not correct any deformity of the shoulder itself. Sever, of Boston, for the last year or two has been working on nothing but these obstetrical paralyses and he has had about one hundred and fifty cases. He demonstrated the procedure causing this paralysis by pushing a dead foetus through the birth canal of an obstetrical teaching model. He showed how the fifth and sixth cervical nerve roots were torn out of the spinal cord or ruptured, by pulling on the arm. T. T. Thomas, of Philadelphia, has talked about this paralysis as secondary to an injury to the shoulder joint, but Sever's demonstration seemed to make the cause very plain. Sever shows that in many cases the internal rotation of the arm is due to contraction of the subscapularis tendon. To overcome that one must make an incision, cut down through this tendon, turn the arm outward and let the tendon unite. In this way you are able to get better results than by osteotomy of the humerus. Sever shows that in many cases also the acromion process overgrows and acts as a mechanical impediment to raising the arm up; the patient cannot elevate the arm because the acromion has grown down so that the mechanical interference is removed. The arm is kept elevated six weeks in plaster. His results seemed to me very good.

At the Massachusetts General Hospital Brackett and Osgood were doing most of the orthopedic operations. Brackett did one

notable arthrodesis of the hip for a very bad case of arthritis deformans, and Osgood did an excision of the knee for tuberculosis where he used plates. It seems strange to introduce a Lane's plate into a knee joint where you know it is not aseptic but Osgood claims that instead of taking eight or nine months for bony union to occur he gets it in two or three. Certainly one man I saw was able to lift his leg off the bed some four or five weeks after the operation.

The operative clinics at the Children's Hospital were very interesting. In cases of flail foot from infantile paralysis an astraglectomy was done which is said to be better than arthrodesis of the ankle. It can be done at a much earlier age than can an arthrodesis; you preserve one-third to two-thirds of the normal motion up and down at the ankle and you have good lateral stability. At the same time you displace the foot backward and if you have any good muscles you put them where they do the most good. I saw a dozen cases which had been done for infantile paralysis and really the results were splendid. It is a substitute not only for the tendon transplantation but also for arthrodesis.

I saw Soutter do an operation of his own at the Children's Hospital, a correction of flexion deformity of the hip in paralytic cases where the thigh is flexed and you cannot bring it back because of the tensor fascial femoris. We have always done a tenotomy of this muscle but we do know that once in a while the hip flexion returns and the deformity is produced once more. It is of course highly important in the interests of walking for any such thing as hip flexion to be overcome completely. In Soutter's operation he cuts down between the great trochanter and the anterior superior spine, and completely clears the region of the anterior superior spine of any muscle origins. This operation completely undoes the hip flexion which never comes back. The muscles are not divided as in a tenotomy but attach themselves near the anterior inferior spine.

Another interesting thing was congenital anomalies, especially of the sacral vertebra. In cases of backache, scoliosis, sciatica, etc., we are much interested in getting *x*-rays and seeing if there is not some weakness of the spine brought on by or consequent to some congenital anomaly. I was particularly interested in this, as just recently I had occasion to have a bad case of sciatica dependeur, I thought, in a congenitally deficient back.

Goldthwait is the knight errant of orthopedics and is a great enthusiast. At present he is working on the question of posture

and poise and I heard him lecture with great interest. His theory is that no matter if you have a perfect body if you do not use it properly you will have trouble. He shows how the different postures injure many of the organs, irritate various nerves, etc., and how sciaticas, backaches, lumbago, etc., are the result. It is interesting to note that there is at the Massachusetts General Hospital a department or clinic for nothing but the cure of these postural defects.

Injuries to the crucial ligaments were spoken of freely, though we do not see much of that here. They split the patella longitudinally and suture the crucial ligament.

There were seven or eight operations nearly every morning at the Children's Hospital, each of about twenty minutes. As at the Massachusetts General the time-table was adhered to rigidly. If an operator was not finished at the close of the time devoted to him, he finished his operation in a side room.

Altogether the Clinical Congress of Surgeons was most stimulating and full of interest to an orthopedist.

(C) The gynæcological aspects of the Congress, by Dr. C. C. Gurd.

From my own point of view I really do not think I got as much out of this Congress as others I have attended. In the first place, in Boston gynæcology is largely done by surgeons so that as I followed, as far as possible, all of the purely gynæcological clinics, I probably missed some of the better men and more interesting demonstrations. I also followed the obstetrical clinic there, and the first demonstration was on the subject of the toxæmia of pregnancy. In this clinic they found albuminuria fairly common but they laid great stress on the total solids and also on the diminution of the excretion of urea and on the blood pressure. I saw one case that had had a Cæsarean section the day before for this complication; she came into the clinic with a history of toxæmia, headache, swelling, and they gave her three days only before operation as total solids and urea did not improve. I was extremely interested in these cases as I had left one case in Montreal where there was a great deal of albumin but no diminution in urea or increase in blood pressure. I had a talk with some of the doctors at the clinic and they assured me that I need have no anxiety provided the blood pressure was low and the urea was normal. This proved to be correct because my case came off without any trouble at all.

The question of twilight sleep was then considered. I have never used it, but they had two hundred and fifty cases in their

clinic and their technique was simple. I spoke to some of the house surgeons, and I learned a good deal from them about it; they were very enthusiastic. These cases were attended in the room with other normal labours going on. I saw these women afterwards, and spoke to them and found actually that they did not know they were being treated; one patient I saw made as much noise as the others who were not so treated but she did not remember anything about it afterwards.

One case of Cæsarean section for placenta prævia was done most efficiently. The incision used was a high one, above the umbilicus, and there was little mauling of the peritoneum, the bowels were not seen at all and the thing was done carefully and methodically. Here I saw a case where rectal anæsthesia was used; I had not seen this special technique used before (in a great many of the hospitals women give the anæsthetic). The solution injected was composed of a 65 per cent. solution of ether, 1 gramme is injected to the twenty pounds of body weight and the anæsthesia, which lasts from two and a half to three hours, is perfect during this time, though it has been given to last four to six hours. It is used in picked cases only. Dr. Nagle has used the ether vapour, but I do not think any of us have used this special method as done in Boston.

An interesting visit was paid to a hospital run by women only though I think there are one or two men on the board. I saw a vaginal operation done there. The three operators sat close together on comfortable chairs holding on their laps a board fitted in to the waist, upon which were their instruments, etc., everything was handy and efficient.

There was a symposium on cancer introduced by Charles Mayo. He simply outlined an acid theory, explaining that practically speaking wherever cancer started was an acid media, i.e., mouth, stomach, duodenum, rectum, and he explained it in the cervix by the acid secretion there. Dr. Gilday and I have been taking, at the Western Hospital, a series of cases testing the secretion to see whether it is always acid or alkaline, etc., and may work out something on these lines. The Wertheim method of complete removal of uterus, etc., was mentioned. I have done two cases by this method. In one, recurrence took place in the vaginal scar within six months (according to the pathologist's report) but this patient is still alive three years later. This was a fairly advanced case and the advisability of operation was questioned. The other case is also still alive without recurrence. Another method

mentioned was that of the low heat penetration of Percy. As you know a low heat, about 112° , will penetrate and kill cancer cells and leave the living cells. The cautery is introduced from below per vaginum and is heated to 112° ; you can control it and actually feel the heat through the gloved hand which is held over the uterus. You can avoid the bladder and rectum and do a great deal in this way that you could not do otherwise. Percy used this treatment first preliminary to a radical operation. At the Mayo clinic, in many cases of cancer of the cervix, they have used the Percy treatment, but have not felt it safe to trust to this heat penetration alone and at a subsequent period have removed the uterus.

DISCUSSION: Dr. M. Lauterman: As regards the use of novocaine the solution generally employed was 1/10th of 1 per cent. This is in accordance with Crile's teaching of anoci association, it is not used for the purpose of producing anaesthesia, gas or ether, either alone or in combination, are used for this purpose; it is for the purpose of blocking off the field of operation and diminishing shock by anaesthetizing the nerve filaments in this area that the novocaine is injected into the tissues before they are traumatized.

To me the striking thing about the majority of the clinics visited was the thorough manner in which all the clinical material was utilized for the advancement of medical knowledge, as well as the large number of very young men who were doing excellent work. For example, Dr. Crabtree, working under Dr. Hugh Cabot at the Massachusetts General Hospital, has done some epoch-making work in connexion with urinalysis in renal tuberculosis, which will enable us to diagnose these cases much earlier and with greater certainty than has heretofore been possible. He is working along lines suggested some years ago by Professor Louis Hertzman, of New York, whose well-known book on the subject of urinalysis has gone through two editions. It seems a pity to me that we cannot have a clinical congress of our own in Canada each year, our material is every bit as good as one can see at any of the hospitals in the United States or elsewhere, and it must certainly be a good thing for a city to have from five hundred to two thousand medical men congregate there. One of the most enjoyable features of these meetings to me is that I meet friends from all over the country who come to attend these meetings.

(2) The treatment of syphilis by diarsenol, by Dr. R. E. Powell.

DISCUSSION: Dr. M. Lauterman: I am glad to have heard of Dr. Powell's experience with the Canadian preparation; personally

I have only had a limited experience with it, but it has tended to confirm what he has said. I am exceedingly conservative in adopting new remedies and up to the present have worked with salvarsan and neo-salvarsan. My own feeling as regards diarsenol is that it is not quite as effective as salvarsan, but more so than an equal quantity of neo-salvarsan, than which it is, however, more toxic. So that feeling as I do if I can secure the same satisfactory results with a less toxic preparation, even though I use a larger dose and repeat it more frequently, I feel that I am erring on the safe side. I cannot, nor do I believe it possible to emphasize too strongly the plea that Dr. Powell has made for the early diagnosis of lues. I speak very feelingly on this point and feel that it is to our shame that cases are allowed to go undiagnosed and are treated in an indifferent manner when it is such a relatively simple matter to diagnose lues before the so-called secondary symptoms develop and before the patient has become thoroughly saturated with the disease and in consequence less easily treated than in the earlier stage. I must take issue with the statement that a definite number of injections will cure lues. When salvarsan was first heralded as a specific we were told that one injection would cure the disease: we spoke too soon and we know better now. We know that six, eight or even eighty injections will not necessarily cure a given case. I believe that each case should be studied and treated on its own merits and as many injections as are necessary given, until the Wassermann, Noguchi and other reactions are negative; and even then I consider it good policy to examine such a case twice a year and even in the absence of any specific indication to give a course of from six to ten injections of grey oil in the spring and in the fall of the year. It cannot do any possible harm, is an excellent tonic, especially so to a patient that has had lues, and I am convinced protects the patient against any of the later complications of this disease.

Dr. C. K. P. Henry: I have had the opportunity of giving five injections of the diarsenol in the last four weeks, and I can confirm what Dr. Powell has said. The solubility of the drug is certainly less than the old salvarsan but if you have a patient upon whom you may rely to turn up for the injections and you can deposit on the distilled water a thin coating of the drug there is no difficulty in getting the solution. I tried it on a man of seventy-three, and inside of eight days his mucous patches, his skin rash and the local lesions had totally disappeared. We hear of the toxic effects of the drug and I have the feeling in any of these cases of

marked reaction, that they occur most often in the early secondary stages where there are many lesions and in which the recovery is markedly short. In the second injection there is no reaction. It seems to me there must be something in the sudden death of the spirochetes and the throwing out of their toxins rather than the salvarsan itself which is the cause of this reaction. I have not lost faith, however, in the intermuscular injections of mercury, and many cases may be cured by it, but the diarsenol certainly gives you a sterility earlier in the disease, one that mercury cannot produce inside of months.

Dr. A. G. Morphy: I would like to mention a case I had at the Lachine General Hospital of a young married woman with secondary symptoms, many having been cleared up by the use of mercury. I gave her a dose of the Canadian preparation and the most alarming symptoms supervened. There was œdema of the face, pallor, weak pulse, irregular respiration and altogether collapse. However, she rallied all right after a few hours and the symptoms of lues rapidly disappeared. It seems to me from what I have read and from what I have heard from others, no matter what preparation of arsenic is used, that once in a while there occur cases in which untoward symptoms develop.

Dr. Charles Gurd: Dr. Powell treated one case for me that showed symptoms of locomotor ataxia by the intraspinal method. In this case at the first injection there were not many untoward symptoms but when the second was given he complained most bitterly, and the symptoms lasted for from twenty-four to thirty-six hours. He had certainly temporary benefit, the lightning pains went away and the patient felt a great deal better; but they recurred and the intraspinal injection had to be repeated.

Dr. F. R. England: I have had much pleasure in listening to Dr. Powell's most excellent and interesting paper. It was a surprise to me to know that syphilis was so prevalent a disease in Montreal. It was my good fortune, and I had the honour of being instructed in the treatment of syphilis by that distinguished English clinician, the late Sir Jonathan Hutchinson. The etiological factor, the parasite, was not then discovered, but he had implicit faith, founded upon experience, in mercury as being a specific remedy in the treatment of the disease. Grey powder in one grain doses was administered from five to eight times in the day. The treatment was begun when the diagnosis was established and continued, if well borne, for months. I have always practised this method of treatment and must say with the utmost satisfaction both to myself

and the patient; in fact, I have come to look upon the disease as being often more tractable and easily managed than the Neisser infection. Since Ehrlich's salvarsan was introduced I have been in the habit of using it, one or two doses, in conjunction with mercury, and I can testify to its prompt curative effect upon early secondary lesions. Diarsenol has been used by Dr. Austin Irvine in the genito-urinary clinic at the Western Hospital, with, I believe, entire satisfaction. I would like to ask Dr. Powell what the limit of treatment is which he observes. I understood him to say that he depended upon the Wassermann reaction. The laboratory workers to whom I have applied for the Wassermann test have claimed that the test was of no value if mercury was being given to the patient or even if it had been given to the patient within a month. It would certainly be a great advantage if one could feel certain that the disease was no longer active in a given case and that the parasites had disappeared from the blood and tissues.

Dr. R. E. Powell: With regard to the toxic effect on Dr. Morphy's case, occasionally one does come across such cases where you have most alarming symptoms. Fortunately in our series I have only noticed one and this was very similar to that of Dr. Morphy; there was vomiting, the face became cedematous, breathing irregular and rapid weak pulse with marked pallor. The patient was kept absolutely on the back with elevated legs, and very soon picked up. In this case the after effects were very much less than in others not showing any early toxic symptoms.

When I mentioned an odd thousand cases in Montreal, I meant a thousand injections, though we do see a very large number every week. I quite realize that a great many men still have an enormous faith in treatment by mouth, but I think the other is much preferable. It is exactly the same drug, and one knows exactly how much the patient is getting; it must be absorbed into the blood stream, and it is only once a week and patients prefer it to the pills after every meal. The hypodermic mercury is much more satisfactory than the treatment by mouth.

HALDIMAND COUNTY MEDICAL ASSOCIATION

THE Haldimand County Medical Association was reorganized at a meeting of medical men at Cayuga on November 26th, last. Dr. Hopkins, of Dunnville, was elected president, and Dr. Courley, of Cayuga, secretary of the association. About twenty doctors were in attendance.

Medical Societies

- CANADIAN MEDICAL ASSOCIATION:—President—Dr. Murray MacLaren, C.M.G., St. John, N.B. President-elect—Dr. R. E. McKechnie, Vancouver. Secretary-treasurer—Dr. W. W. Francis, 836 University Street, Montreal. Annual Meeting, Vancouver, B.C., 1915, postponed.
- ACADEMY OF MEDICINE, TORONTO:—President—Dr. W. H. B. Aikins, 134 Bloor Street West. Secretary—Dr. J. H. Elliot, 11 Spadina Road.
- ALBERTA MEDICAL ASSOCIATION:—President—Dr. T. H. Whitelaw, Edmonton. Secretary—Dr. H. H. Moshier, Edmonton.
- ASSOCIATION OF MEDICAL OFFICERS OF THE MILITIA:—President—Lt. Colonel A. T. Shillington, A.M.C., Ottawa. Secretary—Captain T. H. Leggett, A.M.C., Ottawa.
- BRITISH COLUMBIA MEDICAL ASSOCIATION:—President—Dr. J. Glen Campbell, Vancouver. Secretary—Dr. H. W. Riggs, Vancouver.
- CALGARY MEDICAL SOCIETY:—President—Dr. W. A. Lincoln, Secretary—Dr. H. A. Gibson. Treasurer—Dr. H. H. Johnson.
- CANADIAN ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS:—President—Dr. J. G. Adami, Montreal. Secretary—Dr. George D. Porter, Ottawa.
- CANADIAN HOSPITAL ASSOCIATION:—President—Dr. H. A. Boyce, Belleville. Secretary—Dr. J. N. E. Brown, Toronto.
- CANADIAN PUBLIC HEALTH ASSOCIATION:—President—Dr. C. J. Hastings, Toronto. Secretary—Dr. O. Withrow, Lumsden Building, Toronto.
- CENTRAL SOUTHERN ALBERTA MEDICAL SOCIETY:—President—Dr. J. S. Murray, Okotoks. Secretary-treasurer—Dr. G. E. Learmonth, High River.
- COLCHESTER-HANTS MEDICAL SOCIETY:—President—Dr. J. W. T. Patton, Truro. Secretary—Dr. H. V. Kent, Truro.
- EDMONTON ACADEMY OF MEDICINE:—President—Dr. C. U. Holmes. Secretary-treasurer—Dr. E. L. Garner. Library, 12 Credit Foncier, Building.
- ELGIN COUNTY MEDICAL ASSOCIATION:—President—Dr. D. A. Cameron, Dutton, Ont. Secretary-treasurer—Dr. A. B. Riddell, Bayham, Ont.
- FRASER VALLEY MEDICAL SOCIETY:—President—Dr. DeWolfe Smith. Secretary—Dr. D. F. Carswell.
- HALDIMAND COUNTY MEDICAL ASSOCIATION:—President—Dr. Hopkins, Dunnville. Secretary—Dr. Courley, Cayuga, Ont.
- HALIFAX MEDICAL ASSOCIATION:—President—Dr. K. A. McKenzie. Secretary—Dr. F. V. Wood.
- HAMILTON MEDICAL ASSOCIATION:—President—Dr. John Y. Parry. Corresponding Secretary—Dr. P. D. MacFarlane. Recording Secretary—Dr. O. W. Niemier.
- HURON MEDICAL ASSOCIATION:—President—Dr. Machell. Secretary—Dr. Hunter, Goderich, Ont.
- KINGSTON MEDICAL AND SURGICAL SOCIETY:—President—Dr. W. G. Anglin. Secretary—Dr. W. T. Connell. Treasurer—Dr. G. W. Mylks.
- LAMBTON COUNTY MEDICAL ASSOCIATION:—President—Dr. R. M. Calder, Petrolia. Secretary-treasurer—Dr. J. E. Kidd, Wyoming.
- LONDON MEDICAL ASSOCIATION:—President—Dr. C. H. Reason, 538 Dundas Street. Secretary-treasurer—Dr. L. S. Holmes, 260 Hamilton Road.
- LUNENBURG-QUEEN'S MEDICAL SOCIETY:—President—Dr. J. W. Smith. Liverpool. Secretary—Dr. L. T. W. Penney, Lunenburg.
- MANITOBA MEDICAL ASSOCIATION:—President—Dr. J. S. Poole, Neepawa. Secretary—Dr. Ross Mitchell, Winnipeg. Treasurer—Dr. Glen Hamilton, Winnipeg.

Medical Societies—Continued

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MEDICINE HAT MEDICAL SOCIETY:—President—Dr. W. M. Thomas. Vice-President—Dr. W. H. MacDonald. Secretary-treasurer—Dr. A. V. Brown.

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NIAGARA DISTRICT MEDICAL ASSOCIATION:—President—Dr. E. T. Kellam, Niagara Falls. Secretary—Dr. G. M. Davis, Welland.

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ONTARIO MEDICAL ASSOCIATION:—President—Dr. H. B. Anderson, 184 Bloor Street East, Toronto. Secretary—Dr. F. A. Clarkson, 421 Bloor Street West, Toronto. Assistant Secretary—Dr. F. C. Harrison, 29 Roxborough Street West, Toronto.

Annual meeting, Toronto, May 30th-June 2nd, 1916.

OTTAWA MEDICAL SOCIETY:—President—Dr. Charles W. Gorrell. Secretary—Dr. A. MacLaren. Treasurer—Dr. Harold Alford.

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PERTH COUNTY MEDICAL ASSOCIATION:—President—Dr. C. F. Smith, St. Mary's. Secretary-treasurer—Dr. F. J. R. Forster, Stratford.

PETERBORO MEDICAL ASSOCIATION:—President—Dr. J. V. Gallivan. Secretary—Dr. D. C. King. Treasurer—Dr. N. D. Buchanan.

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PRINCE EDWARD ISLAND MEDICAL ASSOCIATION:—President—Dr. A. A. MacDonald. Secretary—Dr. W. J. MacMillan, Charlottetown.

REGINA MEDICAL SOCIETY:—President—Dr. Gorrell. Secretary—Dr. Dakin.

ST. JOHN MEDICAL SOCIETY:—President—Dr. D. Malcolm. Secretary—Dr. F. P. Dunlop.

ST. THOMAS MEDICAL ASSOCIATION:—President—Dr. Alexander Turner. Secretary-treasurer—Dr. James A. Campbell.

SASKATCHEWAN MEDICAL ASSOCIATION:—President—Dr. G. P. Bawden. Secretary—Dr. C. G. Sutherland, Moose Jaw.

SASKATOON MEDICAL ASSOCIATION:—President—Dr. T. W. Walker. Secretary—Dr. J. T. Mackay.

SWIFT CURRENT DISTRICT MEDICAL ASSOCIATION:—President—Dr. Graham. Secretary-treasurer—Dr. Hughes.

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WEST ELGIN MEDICAL SOCIETY:—President—Dr. Crane, Wallacetown. Vice-President—Dr. Webster, West Lorne. Secretary-treasurer—Dr. Smith, Fingal.

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